



**Regional  
Hazardous  
Waste  
Management  
Plan**

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*Association of Monterey  
Bay Area Governments*

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D R A F T

ASSOCIATION OF MONTEREY BAY  
AREA GOVERNMENTS

HAZARDOUS WASTE MANAGEMENT PLAN

Prepared by

Association of Monterey Bay Area Governments  
and  
California Hazardous Waste Planners





ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS

DRAFT HAZARDOUS WASTE MANAGEMENT PLAN

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## 1.0 INTRODUCTION

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### REGIONAL PLANNING PROCESS

The Association of Monterey Bay Area Governments (AMBAG) is a council of governments comprised of representatives from Monterey and Santa Cruz Counties and 14 cities within the region. AMBAG is authorized under provisions of AB 2948 (Tanner) to prepare a plan for the management of hazardous wastes within the AMBAG region which consists of the two counties and 16 cities. (Figure 1-1)

The AMBAG Hazardous Waste Management Plan (AMBAG HWMP), identifies existing and forecasted hazardous waste quantities, waste minimization programs, treatment needs, general areas for the location of regional hazardous waste treatment facilities and implementation programs. Hazardous waste management plans have also been prepared by Santa Cruz County and Monterey County. The AMBAG HWMP integrates the major elements of the counties' hazardous waste management plans, thus providing a comprehensive account of proposed programs for the effective management of hazardous wastes throughout the region.

### AB 2948 AND THE TANNER PLANNING PROCESS

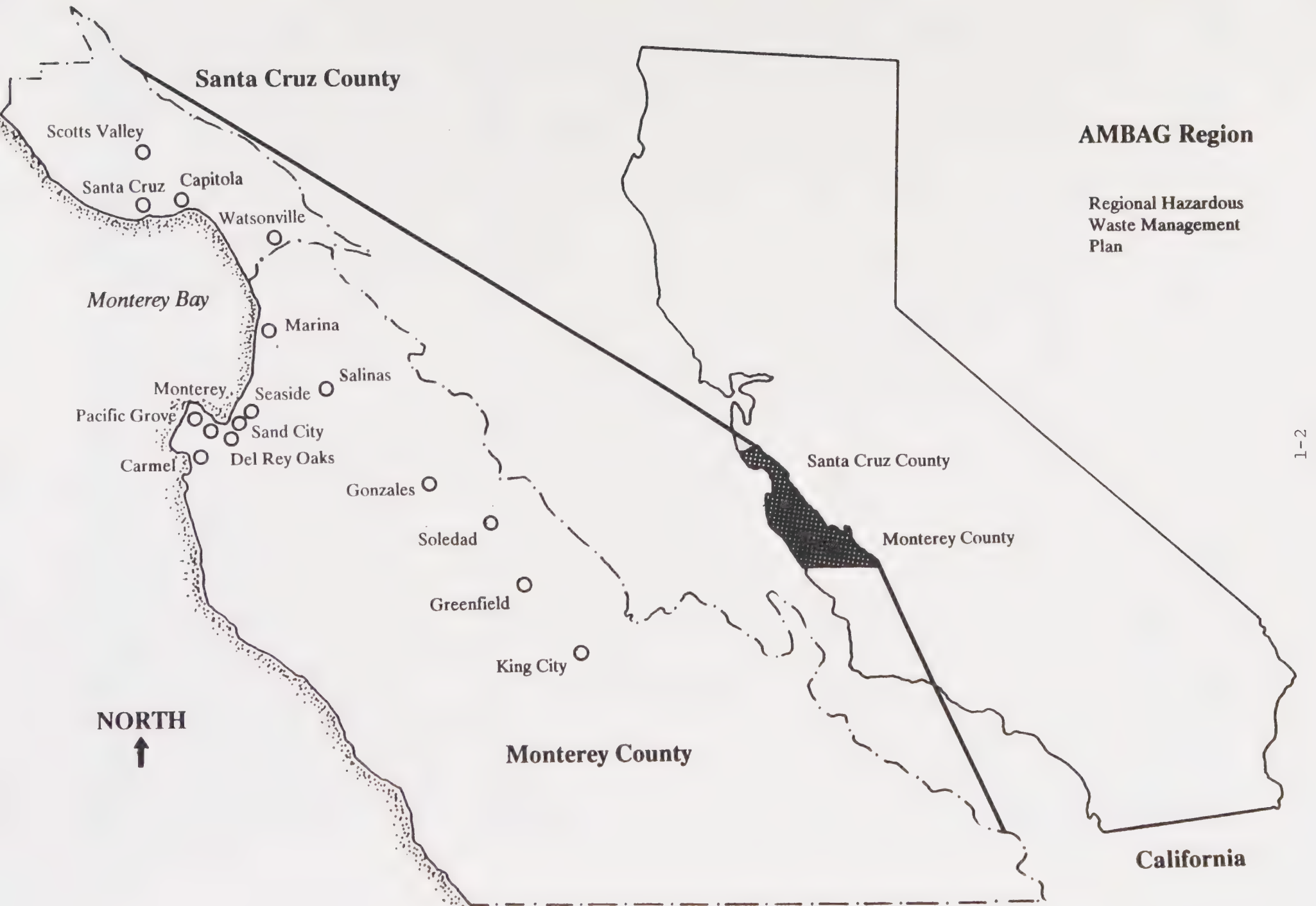
The California Legislature passed AB 2948 in 1986 which allows cities and counties to take specified actions concerning planning for hazardous waste management and land use decisions for hazardous waste facilities. The Tanner Planning Process represents an effort to protect the public health, environment and economic viability of the State as well as to respond to state and federal regulations which prohibit the land disposal of untreated hazardous wastes after May, 1990.

The objective of AB 2948 is to ensure that safe, effective and economical facilities for the management of hazardous wastes are available when they are needed and that these facilities are constructed and operated in a manner which protect public health and the environment. To accomplish this objective each California county is authorized to prepare a separate Hazardous Waste Management Plan or to address hazardous waste management in its Solid Waste Management Plan. In addition, regional councils of governments, including AMBAG, were given the authority to prepare regional hazardous waste management plans.

Hazardous Waste Management Plans are to include estimates of the current hazardous waste stream and projections to 2000. Existing waste management approaches and facilities are to be evaluated, and future needs projected for expanded or new waste management facilities. Special attention must be paid to the problems of



FIGURE 1-1







small quantity waste generators, household hazardous wastes, and waste transportation issues. Each county is to develop criteria to identify appropriate facility locations and must involve and inform the public in preparing the county plan and criteria.

A Hierarchy of Waste Management Strategies is encouraged by AB 2948. In seeking to adopt alternatives to land disposal, this hierarchy urges that first priority be given to reducing hazardous wastes during manufacturing through process modifications, material substitutions, housekeeping measures, and use of less hazardous materials. Once source reduction has been pursued to the extent practical, second priority is to be given to recycling and reuse of wastes. Remaining wastes and the residuals left by recycling would then be treated or if necessary, incinerated. Only those waste residuals not capable of further reduction would be placed in secure land disposal units.

A new Facility Siting Process is established under AB 2948. The bill requires that proposed hazardous waste management facilities either be consistent with county hazardous waste management plan goals, policies, and siting criteria or with local general plans. Local government land use decisions on facility proposals may be appealed to a state appeals board composed of a majority of local officials. If the board finds that the proposed facility would be consistent with the reasonable restrictions contained in the approved County Hazardous Waste Management Plan (CHWMP), the local decision may be preempted and the facility granted the necessary land use permit. Should the area not have a state approved CHWMP, the board would look to the General Plan and if the proposal is consistent with the General Plan, the local decision could be preempted.

The AMBAG and County HWMPs are to be submitted to the California Department of Health Services (DHS) for review March 31, 1988. Public hearings and workshops on the draft plans are scheduled for March through June, 1988. The final plans will be revised in response to DHS comments. Final county plans must be adopted by a majority of cities containing a majority of the population in the incorporated area of the county and by the Boards of Supervisors. The regional plan requires approval of the AMBAG Board of Directors. The final county and regional HWMPs must also be approved by the State Department of Health Services. Once approved, the county and all cities must either incorporate the County Hazardous Waste Management Plans into their general plans or enact an ordinance to make all city or county land use regulations consistent with the plan within 180 days of DHS approval of the final plan.

### AMBAG PLAN CONTENTS

The AMBAG Plan is intended to be consistent with DHS Guidelines prepared under provisions of AB 2948 and applies the methods,

techniques and policies established by the DHS in the analysis of the regional waste stream and in the determination of the need for hazardous waste facilities to safely manage and properly dispose of hazardous waste produced within the AMBAG region. Waste minimization programs to reduce the amount of waste to be processed are also discussed. The regional plan specifies siting criteria for needed county and regional facilities, as well as identifies general areas suitable for these facilities. Implementation of existing requirements and of programs proposed in the county and regional hazardous waste management plans is discussed. The process for regional and county plan updates is described. Finally, the consistency of the regional plan with county and regional hazardous waste management plans and other regional environmental plans is reviewed.

#### **OTHER LEGISLATION ADDRESSED IN THE PLAN**

The Tanner legislation authorizes preparation of hazardous waste management plans and focuses on the importance of facilitating the siting process for needed treatment and disposal facilities. However, comprehensive hazardous waste management relies on the coordination and enforcement of many pieces of legislation passed by the Federal and California Legislatures in the past few years. These laws are addressed to varying extent within the Regional Hazardous Waste Management Plan and are listed below.

- o SB 1500 (Roberti, 1986) - prohibits the land disposal of untreated hazardous wastes by May, 1990, and requires DHS to adopt treatment standards on or before that date.
- o AB 1861 (Campbell, 1985) - authorizes the California Highway Patrol (CHP), in conjunction with local governments, to establish specified routes, parking and stopping places for transporters of hazardous wastes.
- o AB 2030 (Hart, 1984) -authorizes the closure of specified highways to vehicles transporting hazardous wastes if certain requirements are met.
- o AB 2457 (Young, 1984) - transfers enforcement, inspection and registration cargo and vehicle tanks carrying flammable and combustible liquids to the CHP and authorizes the Department of Transportation to approve local regulations on the restriction or prohibition of use of tunnels on state highways for vehicles transporting hazardous materials.
- o AB 2239 (Sher, 1985) - Requires local agency permitting programs for underground storage tanks to be implemented by January, 1988.
- o AB 3566 (Katz, 1984) - Enacts the Toxic Pits Cleanup Act



of 1984 and prohibits the discharge of liquid hazardous wastes into a surface impoundment within one half mile of a potential source of drinking water after June, 1988, and sets reporting requirements and other discharge requirements regarding the discharge of liquid hazardous wastes into surface impoundments.

- o SB 509 (Carpenter, 1985) - Requires incineration of hazardous wastes having a heating value of more than 3,000 BTU's after January, 1988 and sets other requirements for the disposal of volatile organic compounds.

- o AB 2185-87, 3777 (Waters, 1985, 1986 and 1987)- Requires all businesses handling hazardous materials to submit a plan for emergency response to incidents and disclose the location and handling procedures for all such materials to local governments.

- o AB 685 (Farr, 1985) - Enacts the Hazardous Waste Reduction, Recycling and Treatment Research and Demonstration Act of 1985 requiring the provision of funding for grants and demonstration of hazardous waste technologies and appropriates \$1 million annually for waste reduction research and demonstration efforts to be sponsored by DHS.

- o AB 3750 (Cortese, 1986) - requires DHS to compile a list of hazardous waste and substance sites, to update at least annually, and to distribute to cities and counties in which the sites are located. The bill further requires that each applicant for a development project to submit a signed statement indicated whether the project is located on a tested site, as a part of the development application submitted to the local permitting agency.

- o AB 2370 (1980) - Sets procedures for the determination by DHS of a border zone for hazardous waste property and allows restrictions as to the use of such property.

- o SB 1406 (Petrus, 1986) - Requires specified written disclosures concerning landfills or other soil problems on the property be made to prospective transferee of real property improved with one to four dwelling units.

- o SB 0245 (Torres, 1987) - Requires sellers of nonresidential real property to notify potential buyers if any hazardous substances were released on or beneath the land.

- o SB 0788 (Garamendi, 1987) - Provides funding for loans to small businesses for development of alternative technologies and waste reduction methods.

- o AB 2958 (Connelly, 1985) - Enacts the Toxic Injection

Well Control Act of 1985 which regulates the injection of hazardous wastes into underground wells after January, 1988 if the well is within one half mile of drinking water and otherwise regulates the use of injection wells for the disposal of hazardous wastes.

- o California Hazardous Substances Act (HSA) - A labeling law administered by DHS and is the State counterpart of the Federal Hazardous Substances Act.

- o California Code - Regulations concerning the transportation of hazardous substances are contained in several sections of the California Code. The CHP has adopted a definition of hazardous materials and has regulatory and enforcement authority concerning the operation of trucks, shipping, packaging and licensing of haulers and drivers.

- o Emergency Response - The Office of the State Fire Marshall has the power to adopt regulations concerning the design and construction of cargo tanks and standards regarding the sale, use, handling, possession and storage of explosives. Counties may enact and enforce regulation at least as restrictive.

- o Hazardous Substances Information and Training Act- Requires handling of hazardous materials to protect worker health and safety, mandates the preparation of Materials Safety Data Sheets and other communications of hazard information to employees and the training of employees to avoid risks to health.

- o California Hazardous Waste Control Act - Empowers DHS to manage hazardous wastes by regulating those who generate, transport and dispose of such materials. Such regulations must be at least as strict as RCRA, but may be more restrictive.

- o Water Resources Control Board Title 26, Sec. 23-2510-2610 - Sets regulations pertaining to water quality aspects of waste discharge to land and establishes waste management requirements for waste treatment, storage, and disposal in landfills, surface impoundments, waste piles and land treatments. Provides for waste discharge permits, defines siting criteria, engineering, construction, operating and closure standards for Class I, II and III landfills. Sets construction, monitoring, closure, reporting, repair and permit requirements for underground storage tanks.

## INTERGOVERNMENTAL COORDINATION

Throughout the preparation of the AMBAG HWMP, AMBAG staff has cooperated and consulted with representatives and staff of participating cities and counties. To facilitate coordination between the county and regional hazardous waste planning activities, AMBAG staff has attended the regular meetings of the Monterey County Hazardous Waste Advisory Committee and the Santa Cruz County Hazardous Materials Advisory Commission.

In addition, a Regional Working Group was organized by AMBAG to further coordinate the county and regional planning process. The Working Group included the Environmental Health Officers of Monterey and Santa Cruz County, the chairpersons of the county advisory committees, a representative from neighboring San Benito County, and AMBAG staff. DHS staff also attended majority of the meetings. This group met on a regular basis to exchange information and to ensure consistency among the various planning efforts.

## PUBLIC PARTICIPATION

In response to the Tanner Planning Process requirements for a public participation program, Santa Cruz and Monterey Counties established advisory committees to assist in preparation of the county plans. Advisory committee meetings are open to the public and public input is encouraged. AMBAG staff participated in these meetings and provided regular updates on the regional planning process. In addition to the advisory committee meetings, press releases and newspaper advertising have occurred or are planned and public information workshops and public hearings which include AMBAG staff participation are planned.

The Draft AMBAG HWMP will be distributed to the AMBAG Board of Directors, members of the Santa Cruz County and Monterey County Board of Supervisors, members of the advisory committees, and other interested persons. In addition, the draft EIR will be circulated for review and comment to interested groups, agencies and individuals throughout the region in the spring of 1988.

## ENVIRONMENTAL REVIEW

A Notice of Preparation for the Draft EIR on the AMBAG Hazardous Waste Management Plan was distributed on December 4, 1987 for early consultation. The Draft EIR is intended to be sufficiently specific to address the environmental impacts of the two County plans as well as the regional plan. The Draft EIR will be circulated for public review in early spring and certified in June, 1988. The Final EIR will be used by decision makers prior to action on the Final AMBAG and County plans.





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## 2.0 PURPOSE

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The purpose of the AMBAG hazardous Waste Management Plan is to protect the health, safety, and economic viability of the AMBAG region as well as that of the State of California. The AMBAG Hazardous Waste Management Plan is intended to serve as a resource document which identifies hazardous waste management issues, needs, and solutions at the regional level. The AMBAG Plan is also intended to be integrated with other local land use planning activities to ensure that suitable locations are available for needed hazardous waste management facilities.



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### 3.0 GOALS AND OBJECTIVES

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The goal of the AMBAG Hazardous Waste Management Plan is to protect public health, safety, and welfare and preserve the economic well being of the region by establishing means to reduce and manage hazardous wastes. The following objectives are designed to achieve this goal:

1. Incorporate the Santa Cruz and Monterey County Hazardous Waste Management Plans into a regional plan which will serve as a resource document.
2. Determine existing hazardous waste inventory of the region.
3. Integrate the counties' hazardous waste generation forecasts to the year 2000 to determine estimated future hazardous waste generation for the region.
4. Determine the need for hazardous waste facilities to safely manage and properly dispose of the current and estimated future hazardous wastes generated within the region.
5. Identify general areas which would safely accommodate these regionally sized facilities.
6. Work with local jurisdictions in considering the feasibility and appropriateness of proposed regional waste treatment and disposal facilities in the land use regulatory process.
7. Identify measures that reduce generation of hazardous wastes in the region to the optimum extent achievable.
8. Provide the public, industry and local government with the information needed to take reasonable steps to minimize, recycle, treat, dispose and otherwise manage hazardous wastes in the region.
9. Review hazardous waste management programs of the Counties of Monterey and Santa Cruz and suggest ways effectiveness could be improved through regional cooperation and coordination.
10. Promote regional cooperation between Santa Cruz and Monterey Counties in the siting of regional hazardous waste facilities and management of hazardous wastes through inter-county agreements which would address the roles and responsibilities of each county.





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## 4.0 SUMMARY

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The AMBAG Regional Hazardous Waste Management Plan includes the following milestones:

- o identification of the 1986 hazardous waste stream generated in the AMBAG region;
- o forecasts of hazardous wastes in the year 2000;
- o programs which reduce waste generation and an estimate of potential waste reduction for the year 2000;
- o description of regional waste treatment facility needs;
- o identification of candidate general areas within the region suitable for treatment facilities;
- o description of the implementation of existing hazardous waste management requirements; and
- o identification of programs to implement the plan.

### 1986 AND YEAR 2000 HAZARDOUS WASTE STREAM

Hazardous wastes generated in 1986 within the region are shown on Table 4-1. Of the total waste stream, 95% was directly attributable to industry and commerce and 5% to households. Hazardous waste generation is projected to increase 6% by the year 2000 (Table 4-2). Contributions from households are expected to increase to 7% of the total waste stream, while business contributions will decline by 2%.

### POTENTIAL WASTE REDUCTION

Waste reduction is an economically and environmentally sound method of dealing with hazardous waste. It includes onsite practices that reduce, avoid or eliminate the need for offsite hazardous waste facilities and involves source reduction, recycling and treatment.

It is estimated that of the 23,215 tons of hazardous wastes projected to be generated in the region in the year 2000, approximately 1,200 tons could be eliminated through waste reduction programs. This is in addition to the 5,641 tons which could be reduced through off-site recycling.

### REGIONAL WASTE TREATMENT FACILITY NEEDS

A comparison of the year 2000 regional hazardous waste stream to minimum quantities of hazardous waste needed to support small size waste treatment and disposal facilities indicates that there will be insufficient wastes within the region to support even small sized treatment or disposal facilities. The regional hazardous waste stream is projected to be large enough to support one small size transfer and temporary storage facility within the region.

## **CANDIDATE GENERAL AREAS**

The Department of Health Services Guidelines for the Preparation of Hazardous Waste Management Plans require county plans to establish siting criteria and identify general areas suitable for locating various types of hazardous waste treatment and disposal facilities.

The Monterey County Hazardous Waste Management Plan includes siting criteria similar to those recommended in the Guidelines and identifies the following three candidate general areas: Marina area and City of Salinas for transfer and temporary storage facilities and the San Ardo area for transfer and temporary storage, treatment, recycling, solidification/stabilization, incineration, and residual repository facilities. The Santa Cruz County will address the siting criteria and candidate general areas in the Final Santa Cruz County Hazardous Waste Management Plan.

## **EXISTING PROGRAMS**

Existing requirements related to the transportation system; inspection, technical assistance and enforcement; organizational responsibilities; emergency response procedures; contaminated sites and small quantity generators and household hazardous waste programs are described and evaluated in the Monterey County and Santa Cruz County Hazardous Waste Management Plans. The AMBAG HWMP includes a summary of the findings from the county plans in Section 8.

## **PLAN IMPLEMENTATION**

The AMBAG HWMP includes programs to be undertaken by AMBAG to implement the regional plan. These programs relate to public participation; environmental review; development of a directory to provide guidance on the proper disposal of small quantities of hazardous waste; revision of the AMBAG HWMP; coordination of the development of hazardous waste management facilities inter-county agreements as needed; coordination of the county plans with plans of other counties in and beyond the region; and participation in the organization and development of a Data Information System for hazardous waste management with Monterey, Santa Cruz and San Benito Counties. Implementation of these programs is dependent on funding from the Department of Health Services and/or the Counties of Santa Cruz and Monterey.

The AMBAG HWMP also describes implementation programs included in the two county plans.

TABLE 4-1

HAZARDOUS WASTES GENERATED AND SHIPPED OFFSITE  
FOR TREATMENT- AMBAG REGION  
1986 - (Tons)

Waste Group	Industrial/ Commercial	Household	Total
Waste Oil	6,428	238	6,666
Halogenated Solvents	559	11	570
Nonhalogenated Solvents	629	171	800
Organic Liquids	102	20	122
Pesticides	604	36	640
PCBs & Dioxins	188	0	188
Oily Sludges	196	0	196
Halogenated Organic Sludges & Solids	5	0	5
Nonhalogenated Organic Sludges & Solids	3,527	22	3,549
Dye & Paint Sludges & Resins	237	186	423
Metal-Containing Liquids	404	82	486
Cyanide & Metal Liquids	12	0	12
Nonmetallic Inorganic Liquids	433	116	549
Metal-Containing Sludges	240	0	240
Nonmetallic Inorganic Sludges	0	0	0
Miscellaneous Wastes (1)	<u>3,463</u>	<u>108</u>	<u>3,571</u>
<b>SUBTOTAL</b>	17,027	990	18,017
Contaminated Soils (one-time cleanups)	<u>8,777</u>	<u>0</u>	<u>8,777</u>
<b>TOTAL</b>	25,804	990	26,794

(1) Excludes one-time clean up of 406 tons and 71 tons of hazardous wastes in waste groups other than Contaminated Soils in Monterey and Santa Cruz Counties, respectively.



TABLE 4-2

PROJECTED HAZARDOUS WASTE GENERATION - AMBAG REGION  
2000 (Tons)

Waste Group	Industrial/ Commercial	Household	Total
Waste Oil	7,976	346	8,322
Halogenated Solvents	703	14	717
Nonhalogenated Solvents	776	217	993
Organic Liquids	122	30	152
Pesticides	901	48	949
PCBs & Dioxins	238	0	238
Oily Sludges	222	0	222
Halogenated Organic Sludges & Solids	6	0	6
Nonhalogenated Organic Sludges & Solids	614	34	648
Dye & Paint Sludges & Resins	287	268	555
Metal-Containing Liquids	514	98	612
Cyanide & Metal Liquids	16	0	16
Nonmetallic Inorganic Liquids	570	154	724
Metal-Containing Sludges	320	0	320
Nonmetallic Inorganic Sludges	0	0	0
Miscellaneous Wastes (1)	<u>4,502</u>	<u>158</u>	<u>4,660</u>
<b>SUBTOTAL</b>	17,767	1,367	19,134
Contaminated Soils (one-time cleanups)	<u>4,081</u>	<u>0</u>	<u>4,081</u>
<b>TOTAL</b>	21,848	1,367	23,215

(1) Excludes one-time cleanup of 310 tons of hazardous wastes in waste groups other than Contaminated Soils in Monterey County.

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## 5.0 REGIONAL WASTE GENERATION

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### 5.0 Regional Waste Generation

#### Overview

Planning for the future of hazardous waste management in the AMBAG region is based on establishing how much and what kinds of hazardous wastes there are now and projecting the quantities to be expected in the future. The purpose of this section is to describe the types and quantities of hazardous wastes produced by businesses, industries, institutions and households. This information will serve as the basis for determining what kinds of facilities will be needed to manage the AMBAG region's hazardous waste.

It should be noted that Santa Cruz County data have not been approved by the Santa Cruz County Board of Supervisors, and therefore all data tables and analysis are subject to revision.

#### Hazardous Wastes Groups For Regional Hazardous Waste Planning

For purposes of preparing county and regional hazardous waste plans, the State Department of Health (DHS) has grouped 80 categories of the California Manifest system into 17 broad waste groups. The AMBAG Regional Hazardous Waste Management Plan, as well as the County Hazardous Waste Management Plans (CHWMPs), organize all hazardous waste generation data according to these groups (Table 5-1).

Waste groups used in this plan do not preclude the use of new waste groups (e.g. infectious waste) in the needs assessment of plan updates. Updated plans may also be required to enhance the analysis of selected waste streams (e.g. out of state shipments, pretreatment sludges, etc.).

Individuals and businesses that produce a hazardous waste are referred to as "generators" whether they produce a few gallons of leftover paint or hundreds of tons of waste oil, solvents, or heavy metal containing sludges.

### 5.1 Hazardous Waste Generation Inventory for 1986

#### Sources of Data

A number of sources were used to compile data for the hazardous waste generation inventory. They include manifest data from the Department of Health Services' (DHS) Hazardous Waste Information System; county surveys of the major hazardous waste generators to determine details of industrial operations (e.g. average annual waste generation quantities, waste management practices





TABLE 5-1

## DHS WASTE GROUPS - ORGANIC

Form	DHS Waste Group	Manifest Category
Liquids	Waste Oil	Waste oil and mixed oil Unspecified oil-containing waste
	Halogenated Solvents	Halogenated Solvents Liquids w/halogenated organics
	Nonhalogenated Solvents	Oxygenated solvents Hydrocarbon solvents Unspecified solvent mixtures
	Organic Liquids	Aqueous solutions w/organics
	Pesticides	Pesticide rinse water Pesticides Pesticide production waste
	PCBs and Dioxins	PCBs Liquids with PCB concentration >50mg/l
Sludges and Solids	Oily Sludges	Oil/water separation sludge Other organic solids Tetraethyl lead sludge
	Halogenated Organic Sludges and Solids	Still bottoms with halogenated organics Organic solids with halogens Degreasing Sludge Solids with halogenated organic content >1000 mg/kg
	Nonhalogenated Organic Sludges and Solids	Tank bottom waste Other still bottom wastes Sewage sludge Paper/pulp sludge Unspecified sludge waste Fly ash, bottom ash and retort ash
	Dye and Paint Sludges and Resins	Organic monomer waste Polymeric resin waste Adhesives Latex waste Paint sludge
	Miscellaneous Wastes	Off-spec, aged or surplus organics

# DHS WASTE GROUPS - NONORGANIC

Form	DHS Waste Group	Manifest Category
Liquids	Metal Containing Liquids	Acids with metals
		Alkaline with metals
		Aqueous with metals
		Liquids with arsenic concentration > 50 mg/l
		Liquids with cadmium conc. > 100 mg/l
		Liquids with chromium conc. > 500 mg/l
		Liquids with lead conc. > 500 mg/l
		Liquids with mercury conc. > 20 mg/l
		Liquids with nickel conc. > 134 mg/l
		Liquids with selenium conc. > 100 mg/l
		Liquids with thallium conc. > 130 mg/l
	Cyanide and Metal Liquids	Liquids with cyanide conc. > 1000 mg/l
	Nonmetallic Inorganic Liquids	Acids without metals
		Unspecified acid
		Alkaline without metals
		Aqueous with reactive anions
		Unspecified aqueous solution
		Liquids with pH value less than 2
Sludges and Soils	Metal Containing Sludges	Metal Sludge
	Nonmetallic Inorganic Sludges	Alum and gypsum sludge
		Lime sludge
		Phosphate sludge
		Sulfur sludge
		Drilling mud contaminated
	Soil	Contaminated Soil
	Miscellaneous Waste	Off-spec, aged or surplus inorganics
		Asbestos-containing waste
		Fluid catalytic cracker waste
		Other spent catalyst
		Metal dust
		Other inorganic solid waste
		Pharmaceutical waste
		Biological waste other than sewage sludge
		Empty pesticide containers > 30 gal.
		Other empty containers > 30 gal.
		Chemical containers < 30 gal.
		Photochemical/photoprocessing waste
		Laboratory waste chemicals
		Detergent and soap
		Gas scrubber waste
		Baghouse waste
		Household hazardous waste

and future waste generation estimates); population and business data compiled by AMBAG; and other studies. The Santa Cruz County plan points out that limitations in the data collection efforts were imposed by the short time frame for plan preparation and existing resource limitations.

#### Wastes Shipped Offsite

Table 5-2 (DHS Table A) presents an inventory of manifested hazardous waste generated and shipped offsite in 1986 by generators in the AMBAG region. Quantities from household waste sources, some small quantity generators, and waste oil route service operations are not currently included within the manifested waste because specific regulations addressing these wastes generally fall outside of the manifest system.

According to the 1986 manifest data provided by DHS to the counties and information obtained directly from generators, the AMBAG region generated 19,127 tons of hazardous waste which were shipped offsite for treatment or disposal. This quantity does not include any wastes which may be treated at the site of generation or "on-site" waste.

The predominant waste stream was contaminated soil which accounted for 8776 tons or 46% of total manifested wastes in 1986. The second and third largest waste groups for 1986 were waste oil with an amount of 4,405 tons (21%) and non-halogenated organic sludges and solids with an amount of 3,390 tons (18%). The remaining 15% is spread over 13 additional entries.

These data are also presented on Table 5-7 (DHS Table I), "Multi-year Planning Estimate of Hazardous Waste Produced by Households and Large, Medium and Small Quantity Generators". To develop a "multi-year planning estimate" in accordance with DHS instructions, Monterey County chose to average its 1985 and 1986 quantities of manifested waste shipped offsite. (Monterey County recorded 18,705 tons in 1985 and 13,171 tons in 1986. The average, 15,938 tons, is used in Table 5-7.) Santa Cruz County data reflect 1986 quantities only.

#### Treatment Methods

Each waste group is associated with a "primary generalized treatment method" recommended by DHS in the Technical Reference Manual of the Guidelines, Table E-1. With the exception of primary treatment method for contaminated soil used by Monterey County, DHS methods are used to determine the current commercial capacity need for each generalized treatment method, Table 5-3 (DHS Table B).

The greatest need for treatment in 1986 was for bioreclamation to treat Monterey County's 7,335 tons of contaminated soil. (Bioreclamation was selected as the primary treatment method for





TABLE 5-2

QUANTITIES OF HAZARDOUS WASTE SHIPPED OFFSITE IN CURRENT YEAR  
BY GENERATORS IN THE AMBAG REGION  
(DHS TABLE A)

Waste Group	Total Quantity of Manifested Waste Shipped Offsite (tons/1986)	Primary Generalized Treatment Method
Waste Oil	4044.76	Oil Recovery
Halogenated Solvents	7.53	Solvent Recovery
Non-Halogenated Solvents	121.56	Solvent Recovery
Organic Liquids	138.20	Other Recycling
Pesticides	514.90	Aqueous Treatment- Organic
PCB's & Dioxins	189.23	Incineration
Oily Sludges	224.34	Oil Recovery
Halogenated Organic Sludges & Solids	1.60	Incineration
Non-Halogenated Organic Sludges & Solids	3390.33	Solvent Recovery/ Incineration
Dye, Paint Sludges, Resins	6.22	Incineration
Metal-Containing Liquids	397.36	Aqueous Treatment/ Metals Neutralization
Cyanide & Metal Liquids	0.00	Aqueous Treatment/ Metals Neutralization
Non-Metallic Inorganic Liquids	238.24	Aqueous Treatment/ Metals Neutralization
Metal-Containing Sludges	142.13	Stabilization
Non-Metallic Inorganic Sludges	0.22	Stabilization
Contaminated Soil	8776.31	Other Recycling/ Bioreclamation
Miscellaneous Wastes		
Off-spec, aged or surplus inorganics	21.10	Stabilization/ Other Recycling
Asbestos containing waste	416.62	Stabilization
Other inorganic solid waste	345.42	Other Recycling

TABLE 5-2, (Continued)

Waste Group	Total Quantity of Manifested Waste Shipped Offsite (tons/1986)	Primary Generalized Treatment Method
Miscellaneous Wastes (Cont'd)		
Off-spec, aged or surplus organics	23.05	Other Recycling
Bio Waste other than Sewage sludge	0.02	Aqueous Treatment - Organic
Empty Pesticide Containers > 30 gallons	23.50	Other Recycling
Empty Pesticide Containers < 30 gallons	36.10	Other Recycling
Other empty containers > 30 gallons	45.23	Other Recycling
Photochemical/Photo- processing waste	1.99	Other Recycling/ Stabilization
Laboratory waste chemicals	11.60	Other Recycling
Household waste (manifested following collection event)	9.03	Other Recycling
Total Miscellaenous Waste:	933.66	
AMBAG REGION TOTAL:	19126.59	

TABLE 5-3

CURRENT NEEDS ASSESSMENT FOR COMMERCIAL HAZARDOUS  
WASTE TREATMENT/DISPOSAL CAPACITY  
FOR THE AMBAG REGION  
(DHS TABLE B)

Generalized Treatment Method	Required Treatment Capacity (tons/year)
Aqueous Treatment-Organic	514.92
Aqueous Treatment-Metals/ Neutralization	635.60
Incineration	5029.09
Solvent Recovery	129.09
Oil Recovery	4269.10
Other Recycling	654.72
Stabilization	559.47
Bioreclamation	7334.6
TOTAL	19126.59





contaminated soil by Monterey County due to the success of in-situ soil aeration and biodegradation projects at spill sites throughout the county. However, the regional facility needs assessment, Section 7.1, is based on recommended DHS treatment methods which do not include bioreclamation as a primary treatment method. Next were the required treatment capacities for incineration (5,029 tons), and oil recovery (4,269 tons) to handle primarily waste oil and non-halogenated organic sludges and solids, respectively.

The 1986 AMBAG regional needs assessment for commercial waste treatment and disposal capacity is based on this information and is discussed in Section 7.0.

#### Hazardous Wastes Imported Into the AMBAG Region in 1986

Table 5-4 (DHS Table E) shows the wastes imported into the AMBAG region by county of generation. One Monterey County facility, Soilserv, was the receiving facility in both instances. Forty eight tons of pesticides were imported from San Luis Obispo County, and 28.5 tons of unknown wastes were first taken outside Monterey County then brought back to be held in one of Soilserv's Salinas treatment ponds.

#### Hazardous Wastes Exported From the AMBAG Region in 1986

Hazardous waste generators within the AMBAG region shipped a total of 16,957 tons of waste to out-of-county treatment/disposal facilities in 1986 according to DHS manifests. Table 5-5 (DHS Table F) identifies the facility and host county receiving the wastes and the quantity of waste by waste group. The information presented in Table 5-5 reflects DHS data only; therefore the total quantities of wastes differ from the information presented in Table 5-2 (DHS Table A), which cites 19,127 tons as the total tonnage of wastes manifested and shipped off-site for treatment. The data presented in Table 5-2 have been adjusted to reflect major generators' responses regarding quantities of waste shipped offsite for treatment and/or disposal.

#### Hazardous Wastes Managed On-site

Within the AMBAG region four major generators utilize on-site treatment/disposal: PG & E Moss Landing; Fort Ord; IDT; and KCAC Inc., Calidria. In 1986, 9,828 tons of waste were treated or disposed of on-site. For each generator the treatment method, the quantity of waste treated in 1986, the treatment method capacity and the percent of capacity used are summarized in Table 5-6 (DHS Table H). All of these generators are located within Monterey County and are described in detail in the Monterey County HWMP. There are no indications that the on-site treatment/disposal practices of these hazardous waste generators will change in the near future.



TABLE 5-4

QUANTITY OF HAZARDOUS WASTES IMPORTED  
INTO THE AMBAG REGION IN 1986  
(DHS TABLE E)

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Receiving Generator	Waste Group	County of Generation	Amount Received (tons)
<hr/>			
Soil Services, Inc. (Monterey County)	Pesticides	San Luis Obispo	47.9
	Unknown	Monterey	28.5

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1. No imported waste reported by Santa Cruz County.





TABLE 5-5

QUANTITIES OF HAZARDOUS WASTE EXPORTED FROM THE REGION IN 1986  
(TONS)  
(DHS TABLE F)

WASTE GROUP	RECEIVING FACILITY	COUNTY	QUANTITY
<b><u>Waste Oil</u></b>			
Santa Cruz County			
	Evergreen Oil Inc.	Alameda	30.02
	IT Corp-Vine Hill	Contra Costa	1.25
	Mcauley Oil Co. #C	Los Angeles	897.08
	Calif. Oil Recyclers	San Mateo	39.02
	Casmalia Disposal	Santa Barbara	50.70
	Solvent Service Co.	Santa Clara	0.22
	Unknown	Unknown	2072.69
		<b>SUBTOTAL:</b>	<b>3,090.98</b>
Monterey County			
	Chemical Waste Mgmt	Kings	39.30
	Rutherford Pacific	Los Angeles	19.40
	American Enviromental Management Corp.	Sacramento	7.30
	Calif. Oil Recyclers	San Mateo	37.60
	Romic Chemical Corp.	San Mateo	121.20
	Casmalia Disposal	Santa Barbara	79.30
	Unknown	Unknown	15.40
		<b>SUBTOTAL:</b>	<b>319.50</b>
		<b>REGIONAL TOTAL:</b>	<b>3,410.48</b>
<b><u>Halogenated Solvents</u></b>			
Santa Cruz County			
	Romic Chemical Corp.	San Mateo	.02
	Casmalia Disposal	Santa Barbara	0.05
	Bayday Chemical	Santa Clara	0.96
	South Bay Chemical Co.	Santa Clara	1.14
	Van Waters & Rogers/ Div. of Univar	Santa Clara	2.24
	Unknown	Unknown	1.12
		<b>SUBTOTAL:</b>	<b>5.53</b>
Monterey County			
	Romic Chemical Corp.	San Mateo	0.40
	Great Western Chemical	Santa Clara	0.40
	Unknown	Unknown	1.60
		<b>SUBTOTAL:</b>	<b>2.40</b>
		<b>REGIONAL TOTAL:</b>	<b>7.93</b>
<b><u>Non-Halogenated Solvents</u></b>			
Santa Cruz County			
	Romic Chemical Corp.	San Mateo	57.59
	Casmalia Disposal	Santa Barbara	6.14
	Solvent Service Co.	Santa Clara	10.55
	South Bay Chemical Co.	Santa Clara	1.92
	Unknown	Unknown	1.16
		<b>SUBTOTAL:</b>	<b>77.36</b>

WASTE GROUP	RECEIVING FACILITY	COUNTY	QUANTITY
<b><u>Non-Halogenated Solvents</u></b> , (Continued)			
Monterey County	IT Corp.-Vine Hill	Contra Costa	2.00
	Chemical Waste Mgmt.	Kings	0.70
	American Environmental Mgmt. Corp.	Sacramento	2.90
	Romic Chemical Corp.	San Mateo	34.20
	Casmalia Disposal	Santa Barbara	0.80
	Solvent Service, Inc.	Santa Clara	1.00
	Out-of-State	Out-of-State	0.50
	Unknown	Unknown	1.00
		<b>SUBTOTAL:</b>	43.10
		<b>REGIONAL TOTAL:</b>	120.46
<b><u>Organic Liquids</u></b>			
Santa Cruz County	IT Corp-Vine Hill	Contra Costa	5.00
	Chemical Waste Mgmt.	Kings	0.62
	Unknown	Unknown	4.58
		<b>SUBTOTAL:</b>	10.20
Monterey County	IT Corp.-Vine Hill	Contra Costa	42.50
	Chemical Waste Mgmt.	Kings	21.20
	Unknown	Unknown	0.20
		<b>SUBTOTAL:</b>	63.90
		<b>REGIONAL TOTAL:</b>	74.10
<b><u>Pesticide</u></b>			
Santa Cruz County	Chemical Waste Mgmt.	Kings	4.70
	Casmalia Disposal	Santa Barbara	2.10
		<b>SUBTOTAL:</b>	6.80
Monterey County	Chemical Waste Mgmt.	Kings	369.50
	Soil Services, Inc.	Monterey	75.00
	Casmalia Disposal	Santa Barbara	105.10
	Unknown	Unknown	6.40
		<b>SUBTOTAL:</b>	556.00
		<b>REGIONAL TOTAL:</b>	562.80
<b><u>PCBs &amp; Dioxins</u></b>			
Santa Cruz County	Chemical Waste Mgmt.	Kings	8.44
	Amer. Environ. Mgmt.	Sacramento	22.57
	Unknown	Unknown	2.02
		<b>SUBTOTAL:</b>	33.03

TABLE F (Continued)

WASTE GROUP	RECEIVING FACILITY	COUNTY	QUANTITY
<b>PCBs &amp; Dioxins, (Continued)</b>			
Monterey County	Chemical Waste Mgmt.	Kings	14.00
	Amer. Environ. Mgmt.	Sacramento	0.10
	Casmalia Disposal	Santa Barbara	21.90
	Unknown	Unknown	96.80
		<b>SUBTOTAL:</b>	132.80
		<b>REGIONAL TOTAL:</b>	165.83
<b><u>Oily Sludges</u></b>			
Santa Cruz County	IT Corp.-Vine Hill	Contra Costa	2.98
	Unknown	Unknown	42.96
		<b>SUBTOTAL:</b>	45.94
Monterey County	Bay Area Environmental	Contra Costa	0.10
	IT Corp.-Vine Hill	Contra Costa	107.20
	Chemical Waste Mgmt.	Kings	7.80
	Amer. Environ. Mgmt.	Sacramento	3.00
	Casmalia Disposal	Santa Barbara	2.50
	Unknown	Unknown	36.50
		<b>SUBTOTAL:</b>	157.10
		<b>REGIONAL TOTAL:</b>	203.04
<b><u>Halogenated Organic Sludges &amp; Solids</u></b>			
Santa Cruz County	None		
Monterey County	Casmalia Disposal	Santa Barbara	1.60
		<b>SUBTOTAL:</b>	1.60
		<b>REGIONAL TOTAL:</b>	1.60
<b><u>Non-halogenated Organic Sludges &amp; Solids</u></b>			
Santa Cruz County	IT Corp.-Vine Hill	Contra Costa	2.08
	Chemical Waste Mgmt.	Kings	25.28
	Casmalia Disposal	Santa Barbara	16.64
	Unknown	Unknown	0.83
		<b>SUBTOTAL:</b>	44.83
Monterey County	IT Corp.-Vine Hill	Contra Costa	1.00
	Petroleum Waste Inc.	Kern	3340.20
	Casmalia Disposal	Santa Barbara	133.80
	South Bay Chemical Co.	Santa Clara	3.10
	Unknown	Unknown	41.60
		<b>SUBTOTAL:</b>	3,519.70
		<b>REGIONAL TOTAL:</b>	3,564.53



TABLE F (Continued)

WASTE GROUP	RECEIVING FACILITY	COUNTY	QUANTITY
<b><u>Dye &amp; Paint Sludges &amp; Resins</u></b>			
Santa Cruz County	Casmalia Disposal	Santa Barbara	0.52
		<b>SUBTOTAL:</b>	0.52
Monterey County	Casmalia Disposal	Santa Barbara	5.70
		<b>SUBTOTAL:</b>	5.70
		<b>REGIONAL TOTAL:</b>	6.22
<b><u>Metal-Containing Liquids</u></b>			
Santa Cruz County	CP Inorganics, Inc.	Alameda	36.69
	IT Corp.-Vine Hill	Contra Costa	27.62
	Chemical Waste Mgmt.	Kings	27.10
	Casmalia Disposal	Santa Barbara	0.32
	Solvent Service Co.	Santa Clara	8.59
	South Bay Chemical Co.	Santa Clara	0.91
	Unknown	Unknown	141.93
		<b>SUBTOTAL:</b>	243.16
Monterey County	IT Corp.-Vine Hill	Contra Costa	69.10
	Great Western Chemical	Santa Clara	17.50
		<b>SUBTOTAL:</b>	86.60
		<b>REGIONAL TOTAL:</b>	329.76
<b><u>Non-Metallic Inorganic Liquids</u></b>			
Santa Cruz County	CP Inorganics, Inc.	Alameda	5.73
	Chemical Waste Mgmt.	Kings	1.37
	Olin Hunt Specialty Products, Inc.	Los Angeles	3.20
	Casmalia Disposal	Santa Barbara	0.10
	Great Western Chemical	Santa Clara	11.44
	Solvent Service Co.	Santa Clara	1.58
	South Bay Chemical Co.	Santa Clara	0.22
	Unknown	Unknown	56.90
		<b>SUBTOTAL:</b>	80.54
Monterey County	IT Corp.-Vine Hill	Contra Costa	117.30
	Petroleum Waste Inc.	Kern	20.00
	American Environmental Mgmt. Corp.	Sacramento	8.40
	Casmalia Disposal	Santa Barbara	2.20
	Unknown	Unknown	10.80
		<b>SUBTOTAL:</b>	158.70
		<b>REGIONAL TOTAL:</b>	239.24

TABLE F (Continued)

WASTE GROUP	RECEIVING FACILITY	COUNTY	QUANTITY
<b><u>Metal-Containing Sludges</u></b>			
Santa Cruz County	Casmalia Disposal	Santa Barbara	50.56
	Solvent Service Co.	Santa Clara	0.22
	South Bay Chemical	Santa Clara	2.87
	IT Corp.-Panoche	Solano	75.84
	Unknown	Unknown	12.64
		<b>SUBTOTAL:</b>	142.13
Monterey County	None		
		<b>REGIONAL TOTAL:</b>	142.13
<b><u>Non-Metallic Inorganic Sludges</u></b>			
Santa Cruz County	Solvent Service Co.	Santa Clara	0.22
		<b>SUBTOTAL:</b>	0.22
Monterey County	Casmalia Disposal	Santa Barbara	12.60
		<b>SUBTOTAL:</b>	12.60
		<b>REGIONAL TOTAL:</b>	12.82
<b><u>Contaminated Soil</u></b>			
Santa Cruz County	Chemical Waste Mgmt.	Kings	4.21
	Casmalia Disposal	Santa Barbara	1385.06
	Unknown	Unknown	52.44
		<b>SUBTOTAL:</b>	1,441.71
Monterey County	Petroleum Waste Inc.	Kern	6161.60
	Chemical Waste Mgmt.	Kings	320.50
	Casmalia Disposal	Santa Barbara	53.30
	Unknown	Unknown	40.00
		<b>SUBTOTAL:</b>	6,575.40
		<b>REGIONAL TOTAL:</b>	8,017.11
<b><u>Empty Containers</u></b>			
Santa Cruz County	Chemical Waste Mgmt.	Kings	2.82
	Casmalia Disposal	Santa Barbara	0.25
	Solvent Service Co.	Santa Clara	0.25
	South Bay Chemical	Santa Clara	4.11
	Unknown	Unknown	11.70
		<b>SUBTOTAL:</b>	19.13
Monterey County	None		
		<b>REGIONAL TOTAL:</b>	19.13

TABLE F (Continued)

WASTE GROUP	RECEIVING FACILITY	COUNTY	QUANTITY
<b><u>Off-Spec, Aged or Surplus Inorganics</u></b>			
Santa Cruz County	Casmalia Disposal	Santa Barbara	0.10
		<b>SUBTOTAL:</b>	0.10
Monterey County	None		
		<b>REGIONAL TOTAL:</b>	0.10
<b><u>Asbestos-Containing Waste</u></b>			
Santa Cruz County	Richmond Sanitary Serv.	Contra Costa	9.87
	Casmalia Disposal	Santa Barbara	0.84
	Unknown	Unknown	4.21
		<b>SUBTOTAL:</b>	14.92
Monterey County	None		
		<b>REGIONAL TOTAL:</b>	14.92
<b><u>Other Inorganic Solid Waste</u></b>			
Santa Cruz County	Chemical Waste Mgmt.	Kings	16.84
	Casmalia Disposal	Santa Barbara	33.80
	Solvent Service Co.	Santa Clara	2.78
		<b>SUBTOTAL:</b>	53.42
Monterey County	None		
		<b>REGIONAL TOTAL:</b>	53.42
<b><u>Biological Waste other than Sewage</u></b>			
Santa Cruz County	Casmalia Disposal	Santa Barbara	0.02
		<b>SUBTOTAL:</b>	0.02
Monterey County	None		
		<b>REGIONAL TOTAL:</b>	0.02
<b><u>Off-Spec, Aged or Surplus Organics</u></b>			
Santa Cruz County	Chemical Waste Mgmt.	Kings	1.48
	Casmalia Disposal	Santa Barbara	0.07
		<b>SUBTOTAL:</b>	1.55
Monterey County	None		
		<b>REGIONAL TOTAL:</b>	1.55
<b><u>Photochemicals/Photoprocessing Waste</u></b>			
Santa Cruz County	IT Corp.-Vine Hill	Contra Costa	1.59
		<b>SUBTOTAL:</b>	1.59
Monterey County	None		
		<b>REGIONAL TOTAL:</b>	1.59

TABLE F (Continued)

WASTE GROUP	RECEIVING FACILITY	COUNTY	QUANTITY
<b><u>Laboratory Waste Chemicals</u></b>			
Santa Cruz County	Romic Chemical Corp.	San Mateo	0.68
	Casmalia Disposal	Santa Barbara	2.56
	Solvent Service Co.	Santa Clara	0.44
	Unknown	Unknown	1.02
		<b>SUBTOTAL:</b>	4.70
Monterey County	None		
		<b>REGIONAL TOTAL:</b>	4.70
<b><u>Household Wastes</u></b>			
Santa Cruz County	Casmalia Disposal	Santa Barbara	3.33
		<b>SUBTOTAL:</b>	3.33
Monterey County	None		
		<b>REGIONAL TOTAL:</b>	3.33
		<b><u>GRAND TOTAL:</u></b>	16,956.81

Note: The data presented in this table (DHS Table F) is based on data supplied by DHS on magnetic media and varies from data presented in other tables which have been adjusted by the counties to reflect major generator's responses regarding quantities of wastes shipped offsite for treatment/disposal.





TABLE 5-6

ON-SITE TREATMENT/DISPOSAL  
OF HAZARDOUS WASTE IN 1986  
(TONS)  
(DHS TABLE H)

Facility	General Treatment Method	Quantity Treated	Treatment Method Capacity	Percent Used
MONTEREY COUNTY				
PG&E, Moss Landing	Aqueous Treatment/ Neutralization	2053	5040	41
Fort Ord	Solvent Recovery	1.5	NA	NA
IDT	Aqueous Treatment/ Neutralization	240	480	50
KCAC, Inc., Calidria	Burial of Asbestos Tailings	7534	25000	30

## SANTA CRUZ COUNTY

Santa Cruz County has been notified by DHS that no annual reports on on-site disposal have been submitted by facilities within their county. Survey to determine which businesses are utilizing on-site disposal methods is currently being conducted. Availability of survey results unknown

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1. Quantities of Monterey County wastes treated/disposed of and treatment method capacity based on responses to survey letters except for KCAC Inc., Calidria. Data for the latter were provided by DHS.
2. Data for Fort Ord are not available at this time , but information is being sought.
3. The "treatment method capacity" for KCAC varieies greatly depending on the amount of waste generated by the firm's mining operations. The firm can handle 25,000 tons per year when operating at full capacity.
4. DHS indicates that West Coast Circuits in Monterey County may utilize on-sit treatment/disposal. However, no data are currently available.



## Small Quantity Generators

The DHS suggests that for the purposes of preparing HWMPs, small quantity generators be defined as businesses, households or individuals generating less than 1,000 kg (1.1 ton) of hazardous waste per month, or approximately 13 tons per year. For purposes of estimating quantities and discussing the rather distinct types of program requirements, households and small businesses are typically viewed separately. Household hazardous waste generation is discussed in the following subsection.

Although California does not grant small quantity generators exemptions from the hazardous waste regulatory requirements imposed by the DHS, much of the hazardous waste they produce goes unreported and, therefore, is not included in the DHS's Hazardous Waste Information System data base. Consequently, the actual number of generators is not known. DHS recommended methods were employed to estimate the amount of waste generated by small quantity generators within the AMBAG region.

In an attempt to assess the types and quantities of hazardous waste generated by small quantity generators (SQGs), the DHS converted the results of an EPA survey to yield an average generation factor for 23 broad industrial groups. These industrial groupings were determined primarily according to the types of waste which the establishments were expected to generate and secondarily according to the services delivered or goods produced by the establishments.

Using 1984 Census Bureau data on the number of businesses within each Standard Industrial Classification (SIC), the total number of businesses within each of the 23 industrial groupings was determined. Average hazardous waste generation factors were then applied to yield the estimated quantity of hazardous waste generated in 1986 by small quantity generators, excluding households. These values are presented in Table 5-7 (DHS Table I). To determine the total industrial hazardous waste stream, estimated wastes from small quantity generators are combined with manifested industrial wastes. Table 5-8 (DHS Table J) indicates the quantities of waste generated and shipped offsite in 1986, including small quantity generators, according to industry type and waste group.

In 1986 the small quantity generators within the AMBAG region generated approximately 10,930 tons of hazardous waste. Waste oil contributed 5,963 tons or (55 %) of this waste stream. The largest number of generators in this category are repair shops and service stations. Small quantity generators also produced a large quantity (2,991 tons or 27%) of miscellaneous wastes. Halogenated and nonhalogenated solvents also made up a sizeable percentage of the total SQG waste stream (1,085 tons or 10%).



## Household Hazardous Wastes

A household hazardous waste is any waste produced by a household which contains an ingredient listed in the Code of Federal Regulations, Chapter 40 (Part 261.33, subsection e. or f.) or exhibits characteristics of ignitability, corrosivity, reactivity or toxicity. Containers retaining a residue of hazardous material are also hazardous waste.

A total of 991 tons of hazardous wastes were estimated to have been generated by households within the AMBAG region in 1986. Waste oil contributed 238 tons (24 %) and dyes, paint sludges and resins contributed 186 tons (19%). Non-halogenated solvents, nonmetallic inorganic liquids and miscellaneous wastes were the next largest waste groups. (Table 5-7, DHS Table I) (This information is also presented on Table 5-8 or DHS Table J but is not calculated into the total industrial waste stream and serves only as a comparison.)

Each county used a combination of techniques to develop its estimates of the household hazardous waste stream. Santa Cruz County used the results of several waste characterization studies and a study conducted by ABAG to develop a per-household waste generation figure. This unit factor was then multiplied by the number of households in Santa Cruz. The estimate of the total amount of waste generated (568 tons) was divided among the eight DHS waste groups.

The Monterey County estimates are based on two of the same waste generation studies used by Santa Cruz County. A unit factor of 7.41 per household per year was used in conjunction with the household census for 1986 to yield an estimate of 423 tons of hazardous waste generated by households in Monterey County. This total estimate was divided among the eight DHS waste groups.

## Wastes from One-Time Site Cleanups

Contaminated soils, asbestos-containing wastes and wastes designated IX on the hazardous waste manifest are considered one-time cleanup wastes. These wastes are usually manifested as a result of clean-up activity of contaminated sites, leaking underground storage tanks or asbestos removal.

If a contaminated site, including sites with leaking underground storage tanks, contains wastes with chemical substances at concentrations exceeding established limits or concentrations, then the wastes are considered hazardous and require disposal or treatment. Wastes removed from contaminated sites must be properly transported and disposed. Soils from contaminated sites that are carried by licensed haulers will appear as manifested wastes sent off-site.

Asbestos-containing waste is found in buildings, sprayed or trowelled-on surfacing materials, insulation on pipes, boilers and ducts, and in wallboard, ceiling tiles, and floor tiles. Asbestos-containing waste poses a potential public health hazard only if present in friable form. DHS has classified friable asbestos-containing waste with more than one percent asbestos by weight as being hazardous. Asbestos wastes which are transported to a disposal site must be accompanied by Uniform Hazardous Waste Manifest. However, asbestos waste may be disposed of at disposal sites for non-hazardous waste.

Quantities of wastes from site cleanups in 1986 totaled 5,903 tons and are presented according to waste group in Table 5-7, (DHS Table I). Contaminated soils made up the majority (5,522 tons) of this waste stream. These wastes are not presented in Table 5-8 (DHS Table J) since they are "one-time" cleanup wastes and not a component of the continuous waste stream.

More detailed information pertaining to contaminated sites is presented in Section 8.5.

#### Designated and Non-hazardous Wastes Going to Hazardous Waste Facilities

Wastes which are classified by the DHS, the Solid Waste Regional Control Board, and the Regional Water Quality Control Board as "designated" may require disposal at Class I disposal sites if there is insufficient capacity at Class II disposal sites.

Designated wastes require slightly less stringent management than hazardous wastes. Waste categories that are considered designated wastes which could potentially be disposed of in a Class II facility include the following: contaminated soils from cleanup sites; asbestos-containing waste; pharmaceutical waste; paper sludge/pulp; detergent and soap; air pollution control wastes; sand from sandblasting; sludges from sewage treatment; septage and chemical toilet waste; ash from combustion processes; cement kiln dust; shredder waste; and drilling mud, ores and mineral extractions.

Disposal facilities for designated wastes currently are limited in part due to the lack of permitted Class II facilities and in part due to reluctance of operators to invest in design features required under regulations for sites accepting designated wastes. As a result, designated waste may be disposed of at Class I sites. The total quantity of designated waste from the AMBAG region has not been estimated.



TABLE 5-7

MULTI-YEAR PLANNING ESTIMATE OF HAZARDOUS WASTE  
PRODUCED BY HOUSEHOLDS AND LARGE, MEDIUM AND SMALL QUANTITY GENERATORS  
FOR THE AMBAG REGION  
(TONS)  
( DHS TABLE I)

Waste Group	1985/86 Average Quantity of Manifested Wastes	Wastes From Site Cleanups	Waste from Transfer Station	Waste Reduction	Varianced/ Exempted Wastes	Column 1 Minus Columns 2 3,4 and 5	Waste From Small Quantity Generators	Total Non- Household Wastes	Total Household Wastes
Waste Oil	5495.5	2.3	3572.7	0.0	0.0	1920.5	5962.7	7883.2	238.4
Halogenated Solvents	9.3	0.4	0.0	0.0	0.0	9.0	551.6	560.5	10.7
Nonhalogenated Solvents	114.8	2.6	0.0	0.0	0.0	112.1	533.5	645.6	171.1
Organic Liquids	189.7	0.9	0.0	0.0	0.0	188.8	47.2	236.0	20.2
Pesticides	886.1	2.1	0.0	0.0	0.0	884.0	95.5	979.5	35.6
PCB & Dioxins	152.7	0.0	0.0	0.0	0.0	152.7	0.0	152.7	0.0
Oily Sludges	233.3	7.2	0.0	0.0	0.0	226.1	0.0	226.1	0.0
Halogenated Organic Sludges & Solids	1.1	0.0	0.0	0.0	0.0	1.1	3.2	4.3	0.0
Nonhalogenated Organic Sludges & Solids	6408.5	0.8	0.0	6170.9	0.0	236.8	159.3	396.1	22.0
Dye, Paint Sludges, Resins	5.7	0.3	0.0	0.0	0.0	5.4	236.2	241.6	186.5
Metal-Containing Liquids	379.2	0.3	0.0	0.0	0.0	378.9	46.9	425.8	81.6
Cyanide & Metal Liquids	0.0	0.0	0.0	0.0	0.0	0.0	12.1	12.1	0.0



TABLE 5-7, (Continued)

Waste Group	1985/86 Average Quantity of Manifested Wastes	Wastes From Site Cleanups	Waste from Transfer Station	Waste Reduction	Varianced/ Exempted/ Wastes	Column 1 Minus Columns 2 3,4 and 5	Waste From Small Quantity Generators	Total Non- Household Wastes	Total Household Wastes
Nonmetallic Inorganic Liquids	229.0	0.0	0.0	0.0	0.0	229.0	192.5	421.5	115.7
Metal-Containing Sludges	142.1	0.0	0.0	0.0	0.0	142.1	98.1	240.3	0.0
Nonmetallic Inorganic Sludges	1450.2	0.0	0.0	0.0	0.0	1450.2	0.0	1450.2	0.0
Contaminated Soil	5522.4	5522.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	674.2	363.5	0.0	0.0	0.0	310.7	2991.0	3301.7	109.2
TOTAL	21893.9	5902.8	3572.7	6170.9	0.0	6247.5	10929.8	17177.3	991.0

1. There are no "varianced" or "exempted" wastes in the AMBAG region;
2. Monterey County uses an average of 1985 and 1986 data for Average Quantity of Manifested Wastes; Santa Cruz County uses 1986 manifested waste data.
3. Waste Reduction values reflect waste reduction plans being implemented by Texaco and Mobil within Monterey County.
4. Miscellaneous Wastes are not presented by waste group because this information is not currently available for Monterey County.

TABLE 5-8

WASTE GENERATED AND SHIPPED OFFSITE IN 1986  
INCLUDING SMALL QUANTITY GENERATORS (Tons)  
BY INDUSTRY TYPE  
(DHS TABLE J)

AMBAG REGION

SIC Code	7	15	16	17	20	24	25	27	28	29	30	31
Waste Oil	0.00	0.00	157.03	37.39	14.47	79.59	52.57	328.15	0.00	0.00	0.00	0.00
Halogenated Solvents	0.00	15.15	4.77	21.29	0.51	1.30	0.97	5.32	0.00	0.70	10.59	3.02
Nonhalogenated Solvents	0.00	15.15	4.77	21.29	0.62	1.30	0.97	7.20	0.09	0.00	10.59	3.02
Organic Liquids	0.00	0.00	0.00	4.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pesticides	25.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PCBs & Dioxins	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	84.50	0.00	0.00
Oily Sludges	0.00	0.00	0.00	31.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Halogenated Organic Sludges & Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonhalogenated Organic Sludges & Solids	0.00	9.29	0.90	12.58	0.08	3.98	1.62	0.66	0.00	3130.20	6.74	2.02
Dye & Paint Sludges & Resins	0.00	48.49	0.90	64.72	0.08	4.22	3.17	0.00	0.00	0.00	0.32	0.00
Metal-Containing Liquids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.48	0.00	0.00	0.64	0.18
Cyanide & Metal Liquids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00
Nonmetallic Inorganic Liquids	0.00	1.41	2.70	2.52	0.32	0.00	7.92	2.66	0.00	0.00	0.00	0.00
Metal-Containing Sludges	0.00	0.00	0.90	0.21	0.08	0.00	0.00	2.33	0.00	0.00	2.57	0.73
Nonmetallic Inorganic Sludges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Contaminated Soil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6893.80	0.00	0.00
Miscellaneous Wastes	14.05	11.21	78.28	33.55	7.38	0.61	0.82	23.74	0.00	228.60	0.71	0.17
TOTAL	39.41	100.70	250.25	230.06	23.54	91.00	68.04	372.98	0.09	10337.80	32.16	9.14

## NOTES:

1. Monterey County data include "one time cleanup" wastes; These wastes are subtracted from SubTotal to yield Regional Total.
2. Monterey County data do not include Small Quantity Generators (SQGs); SQGs for Monterey County are listed separately and added into SubTotal.
3. Santa Cruz County data do not include "one time cleanup" wastes.
4. Santa Cruz County data include Small Quantity Generators (SQGs) with other data.
5. Miscellaneous Wastes have not been presented by waste group because this information is not currently available for Monterey County.

## TARIF 5-8(Continued)

WASTE GENERATED AND SHIPPED OFFSITE IN 1986  
INCLUDING SMALL QUANTITY GENERATORS (Tons)  
BY INDUSTRY TYPE

## AMBAG REGION

SIC Code	32	33	34	35	36	38	39	40	41	42	44
Waste Oil	0.00	11.66	160.25	447.91	406.96	121.97	0.00	96.09	37.03	614.77	11.11
Halogenated Solvents	0.00	0.60	9.05	26.55	23.54	11.21	4.79	0.00	1.12	18.67	0.34
Nonhalogenated Solvents	0.00	0.60	12.83	26.55	44.24	17.15	4.79	0.00	1.12	18.67	0.34
Organic Liquids	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pesticides	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PCBs & Dioxins	9.98	0.00	13.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oily Sludges	0.00	0.00	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.00	0.00
Halogenated Organic Sludges & Solids	0.00	0.00	0.00	0.00	1.60	0.00	0.00	0.00	0.00	0.00	0.00
Nonhalogenated Organic Sludges & Solids	0.00	0.07	17.67	3.02	2.67	2.97	3.19	0.00	0.21	3.52	0.06
Dye & Paint Sludges & Resins	0.00	0.04	0.68	1.64	1.45	0.48	0.00	0.00	0.21	3.52	0.06
Metal-Containing Liquids	0.00	27.24	2.15	6.29	215.33	2.98	0.29	0.00	0.00	0.00	0.00
Cyanide & Metal Liquids	0.00	0.05	0.73	2.16	1.91	0.64	0.00	0.00	0.00	0.00	0.00
Nonmetallic Inorganic Liquids	0.00	0.40	6.03	17.67	230.63	5.25	0.00	0.00	0.64	10.57	0.19
Metal-Containing Sludges	0.00	0.09	1.38	4.05	145.50	1.20	1.16	0.00	0.21	3.52	0.06
Nonmetallic Inorganic Sludges	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00
Contaminated Soil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Wastes	0.00	19.68	2.30	4.64	5.28	2.40	0.26	0.00	18.46	306.45	5.53
TOTAL	9.98	60.43	231.40	540.48	1080.23	166.25	14.48	96.09	59.00	979.69	17.69

TABLE 5-8 (Continued)

AMBAG REGION	WASTE GENERATED AND SHIPPED OFFSITE IN 1986 INCLUDING SMALL QUANTITY GENERATORS (Tons) BY INDUSTRY TYPE											
	SIC Code	48	49	50	51	53	54	55	59	72	73	75
Waste Oil		0.00	169.79	0.00	19.14	0.00	0.00	625.44	0.00	0.00	0.00	482.06
Halogenated Solvents		2.40	1.10	0.00	0.58	1.79	0.00	18.99	0.00	0.00	2.00	14.64
Nonhalogenated Solvents		2.40	3.50	0.00	0.58	1.79	1.68	21.14	19.22	0.00	2.00	14.64
Organic Liquids		42.50	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.42	0.00
Pesticides		0.00	0.00	0.00	493.20	1.29	0.00	0.00	0.00	0.00	23.48	0.00
PCBs & Dioxins		0.00	58.00	0.00	0.00	0.00	0.00	5.90	0.00	0.00	0.00	0.00
Oily Sludges		5.00	131.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Halogenated Organic Sludges & Solids		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonhalogenated Organic Sludges & Solids		0.86	123.10	0.00	0.11	0.28	0.00	69.48	25.28	47.67	2.97	2.76
Dye & Paint Sludges & Resins		0.06	0.00	0.00	0.11	2.37	0.00	3.58	0.00	0.00	0.64	2.76
Metal-Containing Liquids		0.00	111.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Cyanide & Metal Liquids		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonmetallic Inorganic Liquids		0.23	9.30	0.00	0.33	2.04	0.00	10.75	0.00	0.00	2.66	8.29
Metal-Containing Sludges		0.00	0.00	0.00	0.11	0.00	0.00	3.58	0.00	0.00	25.25	2.76
Nonmetallic Inorganic Sludges		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Contaminated Soil		0.00	1.80	0.00	294.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Wastes		19.96	223.90	0.00	55.64	18.18	0.00	424.77	0.00	0.48	40.37	240.29
TOTAL		73.41	833.17	0.00	864.40	27.74	1.68	1183.63	44.50	48.15	114.84	768.20



TABLE 5-8 (Continued)

AMBAG REGION	WASTE GENERATED AND SHIPPED OFFSITE IN 1986 INCLUDING SMALL QUANTITY GENERATORS (Tons) BY INDUSTRY TYPE									
	SIC Code	76	79	80	82	83	84	86	87	91
Waste Oil		65.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Halogenated Solvents		3.77	0.23	4.26	1.19	0.00	0.00	0.00	0.00	0.00
Nonhalogenated Solvents		3.77	0.23	4.26	1.19	0.00	0.00	0.00	0.00	0.00
Organic Liquids		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pesticides		0.00	2.97	0.00	0.00	0.00	0.00	4.70	0.00	0.00
PCBs & Dioxins		0.00	0.00	0.00	7.02	0.00	0.00	0.00	0.00	0.50
Oily Sludges		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Halogenated Organic Sludges & Solids		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonhalogenated Organic Sludges & Solids		1.02	0.08	3.05	1.57	0.00	0.00	0.00	0.00	0.00
Dye & Paint Sludges & Resins		0.42	0.01	0.41	0.45	0.00	0.40	0.00	0.00	0.00
Metal-Containing Liquids		0.00	0.00	0.18	0.04	0.00	0.00	0.00	0.15	0.00
Cyanide & Metal Liquids		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonmetallic Inorganic Liquids		1.29	0.02	4.62	1.77	0.00	0.00	0.71	2.69	0.00
Metal-Containing Sludges		0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonmetallic Inorganic Sludges		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Contaminated Soil		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Wastes		32.61	1.07	1.42	31.75	0.12	0.00	0.82	0.62	0.00
TOTAL		108.29	4.61	18.20	44.98	0.12	0.40	6.23	3.46	0.50



TABLE 5-8 (Continued)

WASTE GENERATED AND SHIPPED OFFSITE IN 1986  
INCLUDING SMALL QUANTITY GENERATORS (Tons)  
BY INDUSTRY TYPE

AMBAG REGION				(Mtry Cnty)		Mtry Cnty		Total	Industry
SIC Code	92	97	MISC	Small Quantity Generator	SUB TOTAL	One Time Cleanup	Household Wastes	REGION TOTAL	
Waste Oil	0.00	192.70	6.20	2293.50	6430.82	2.30	238.00	6428.52	
Halogenated Solvents	0.00	0.00	0.00	348.10	558.54	0.00	11.00	558.54	
Nonhalogenated Solvents	0.00	13.70	1.00	348.10	630.49	1.00	171.00	629.49	
Organic Liquids	0.00	1.80	0.90	31.80	102.40	0.30	20.00	102.10	
Pesticides	0.00	0.00	10.20	42.40	603.60	0.00	36.00	603.60	
PCBs & Dioxins	4.10	2.80	3.10	0.00	189.23	1.20	0.00	188.03	
Oily Sludges	0.00	23.80	3.50	0.00	196.21	0.00	0.00	196.21	
Halogenated Organic Sludges & Solids	0.00	0.00	0.00	3.20	4.80	0.00	0.00	4.80	
Nonhalogenated Organic Sludges & Solids	0.00	0.00	4.80	42.80	3527.28	0.00	22.00	3527.28	
Dye & Paint Sludges & Resins	0.00	0.00	0.10	95.50	236.79	0.00	186.00	236.79	
Metal-Containing Liquids	0.00	0.00	2.60	31.80	403.60	0.00	82.00	403.60	
Cyanide & Metal Liquids	0.00	0.00	0.00	6.20	12.13	0.00	0.00	12.13	
Nonmetallic Inorganic Liquids	0.00	0.00	3.20	95.90	432.71	0.00	116.00	432.71	
Metal-Containing Sludges	0.00	0.00	0.00	44.20	240.26	0.00	0.00	240.26	
Nonmetallic Inorganic Sludges	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.22	
Contaminated Soil	0.00	0.00	144.40	0.00	7334.60	7334.60	0.00	0.00	
Miscellaneous Wastes	21.60	106.30	48.20	1832.20	3864.42	401.70	109.00	3462.72	
TOTAL	25.70	341.10	228.20	5215.70	24768.10	7741.10	991.00	17027.00	



## 5.2 Hazardous Waste Generation Forecasts to the Year 2000

The hazardous waste generation inventory for 1986 provides a representation of the current situation within the AMBAG region. To anticipate future facility and program needs, quantities of hazardous wastes must be projected with consideration of economic activity, waste generated per unit by industrial and commercial activities, household hazardous waste generated per capita and wastes from contaminated site cleanup.

### Industrial and Commercial Hazardous Waste Generators

The generation of hazardous wastes by large industries and small quantity generators was projected to the year 2000 to produce estimates for a future needs assessment. The economic growth rate for each type of industry was used to estimate the growth in hazardous waste generation within each industry. The generation of hazardous waste typically parallels the economic climate of the region. It is reasonable to assume that with economic growth there will be a proportional increase in the quantities of hazardous waste generated. In declining sectors of industry, a reduction in the amount of waste generated can be expected.

Economic growth factors for each industry were generated by AMBAG. The 1986 base waste generation data were multiplied by these growth factors to yield the corresponding growth in the hazardous waste generation between now and the year 2000. Monterey County and Santa Cruz County treated small quantity generators differently. Santa Cruz County included small quantity generators with larger industrial generators; Monterey County treated small quantity generators separately, applying a population growth factor rather than an economic growth factor to estimate future waste generation.

Projected quantities of hazardous waste generation for the year 2000 are presented in Table 5-9 (DHS Table K) by industry type, identified by Standard Industrial Classification (SIC) code, and waste group. These values include large generators for both counties and small quantity generators for Santa Cruz County; projected waste generation by small quantity generators in Monterey County is listed separately and added into the Industry Total. One-time cleanup wastes are excluded from these projections but are addressed later in this section.

These waste generation estimates (Table 5-9, DHS Table K) do not include reductions resulting from comprehensive waste reduction programs. Santa Cruz County future waste generation projections do not include any waste reduction; Monterey County projections reflect waste reduction plans being implemented by four generators. The quantity of waste reduction applied to future generation estimates for Monterey County due to these reduction plans is presented with current waste generation data on Table 5-7 (DHS Table I). It is the intention of both counties that



AMBAG REGION

PROJECTED QUANTITIES OF HAZARDOUS WASTE GENERATION  
YEAR 2000 (Tons)  
(DHS TABLE K)

SIC Code	7	15	16	17	20	24	25	27	28	29	30	31
Waste Oil	0.00	0.00	184.29	43.88	13.49	74.20	49.18	305.91	0.00	0.00	0.00	0.00
Halogenated Solvents	0.00	17.78	5.60	24.99	0.48	1.21	0.90	4.96	0.00	1.00	9.87	4.14
Nonhalogenated Solvents	0.00	17.78	5.60	24.99	0.58	1.21	0.90	6.71	0.08	0.00	9.87	4.14
Organic Liquids	0.00	0.00	0.00	5.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pesticides	28.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PCBs & Dioxins	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	116.00	0.00	0.00
Oily Sludges	0.00	0.00	0.00	37.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Halogenated Organic Sludges & Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonhalogenated Organic Sludges & Solids	0.00	10.90	1.06	14.76	0.07	3.71	1.51	0.62	0.00	100.00	6.28	2.77
Dye & Paint Sludges & Resins	0.00	56.91	1.06	75.96	0.07	3.93	2.96	0.00	0.00	0.00	0.30	0.00
Metal-Containing Liquids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.31	0.00	0.00	0.60	0.25
Cyanide & Metal Liquids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.00
Nonmetallic Inorganic Liquids	0.00	1.65	3.17	2.96	0.30	0.00	7.38	2.48	0.00	0.00	0.00	0.00
Metal-Containing Sludges	0.00	0.00	1.06	0.25	0.07	0.00	0.00	2.17	0.00	0.00	2.40	1.00
Nonmetallic Inorganic Sludges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Contaminated Soil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Wastes	15.58	13.16	91.87	39.38	6.88	0.57	0.77	22.13	0.00	258.00	0.66	0.23
TOTAL	43.70	118.18	293.71	270.02	21.94	84.83	63.60	347.70	0.08	475.00	29.98	12.53

NOTES:

1. Projections for Monterey County household hazardous wastes (HHWs) were calculated by multiplying the current waste generation quantities by the ratio of projected households (occupied) in the year 2000 to the number in 1986. Projections for Santa Cruz County HHWs were calculated by multiplying current generation with the estimated increase in residential solid waste generation of 1% per capita per year.
2. One time cleanup wastes are excluded from this table and projected separately in accordance with DHS instructions.
3. Monterey County data do not include Small Quantity Generators (SQGs); SQGs for Monterey County are listed in a separate column and added to Industry Total.
4. Miscellaneous Wastes are not presented by waste group because this information is not currently available for Monterey County.



TABLE 5-9 (Continued)

AMBAG REGION	PROJECTED QUANTITIES OF HAZARDOUS WASTE GENERATION YEAR 2000 (Tons)											
	SIC Code	32	33	34	35	36	38	39	40	41	42	44
Waste Oil		0.00	15.97	219.42	613.29	556.81	167.00	0.00	38.22	40.66	675.02	12.20
Halogenated Solvents		0.00	0.82	12.39	36.35	32.23	15.35	6.56	0.00	1.23	20.50	0.37
Nonhalogenated Solvents		0.00	0.82	17.57	36.35	36.79	23.48	6.56	0.00	1.23	20.50	0.37
Organic Liquids		0.00	0.00	6.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pesticides		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PCBs & Dioxins		13.66	0.00	18.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dily Sludges		0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Halogenated Organic Sludges & Solids		0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonhalogenated Organic Sludges & Solids		0.00	0.10	24.19	4.14	3.66	4.07	4.37	0.00	0.23	3.86	0.07
Dye & Paint Sludges & Resins		0.00	0.05	0.93	2.25	1.99	0.66	0.00	0.00	0.23	3.86	0.07
Metal-Containing Liquids		0.00	37.30	2.94	8.61	294.84	4.08	0.40	0.00	0.00	0.00	0.00
Cyanide & Metal Liquids		0.00	0.07	1.00	2.96	2.62	0.88	0.00	0.00	0.00	0.00	0.00
Nonmetallic Inorganic Liquids		0.00	0.55	8.26	24.19	316.23	7.19	0.00	0.00	0.70	11.61	0.21
Metal-Containing Sludges		0.00	0.12	1.89	5.55	199.22	1.64	1.59	0.00	0.23	3.86	0.07
Nonmetallic Inorganic Sludges		0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00
Contaminated Soil		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Wastes		0.00	26.95	3.15	6.36	7.72	3.28	0.36	0.00	20.27	336.48	6.08
TOTAL		13.66	82.75	316.84	740.05	1455.41	227.63	19.84	38.22	64.78	1075.69	19.44

TARIF 5-q (Continued)

AMBAG REGION		PROJECTED QUANTITIES OF HAZARDOUS WASTE GENERATION YEAR 2000 (Tons)										
	SIC Code	48	49	50	51	53	54	55	59	72	73	75
Waste Oil		0.00	182.40	0.00	26.53	0.00	0.00	880.12	0.00	0.00	0.00	664.58
Halogenated Solvents		2.64	1.00	0.00	0.80	2.52	0.00	26.72	0.00	0.00	2.76	20.18
Nonhalogenated Solvents		2.64	4.00	0.00	0.80	2.52	2.36	29.75	27.05	0.00	2.76	20.18
Organic Liquids		46.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.26	0.00
Pesticides		0.00	0.00	0.00	762.00	1.82	0.00	0.00	0.00	0.00	32.37	0.00
PCBs & Dioxins		0.00	62.42	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00
Oily Sludges		5.49	140.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Halogenated Organic Sludges & Solids		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonhalogenated Organic Sludges & Solids		0.94	132.00	0.00	0.15	0.39	0.00	117.04	35.57	65.72	4.09	3.81
Dye & Paint Sludges & Resins		0.07	0.00	0.00	0.15	3.34	0.00	5.04	0.00	0.00	0.88	3.81
Metal-Containing Liquids		0.00	119.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00
Cyanide & Metal Liquids		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonmetallic Inorganic Liquids		0.25	10.00	0.00	0.46	2.87	0.00	15.13	0.00	0.00	3.67	11.43
Metal-Containing Sludges		0.00	0.00	0.00	0.15	0.00	0.00	5.04	0.00	0.00	34.81	3.81
Nonmetallic Inorganic Sludges		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Contaminated Soil		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Wastes		0.27	18.07	0.00	85.22	25.58	0.00	630.72	0.00	0.66	55.65	331.28
TOTAL		58.30	669.16	0.00	876.26	39.04	2.36	1719.56	62.62	66.38	158.32	1059.08

TABLE 5-9 (Continued)

AMBAG REGION	PROJECTED QUANTITIES OF HAZARDOUS WASTE GENERATION YEAR 2000 (Tons)											MISC SIC	MONTEREY COUNTY SOG's	INDUSTRY TOTAL	HOUSEHOLD HAZARDOUS WASTE	TOTAL	
	SIC Code	76	79	80	82	83	84	86	87	91	92						97
Waste Oil		89.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	238.00	8.00	2877.00	7975.84	346.00	8321.84
Halogenated Solvents		5.20	0.32	5.87	1.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	437.00	703.38	14.00	717.38
Nonhalogenated Solvents		5.20	0.32	5.87	1.64	0.00	0.00	0.00	0.00	0.00	0.00	17.00	1.00	437.00	775.62	217.00	992.62
Organic Liquids		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	40.00	122.49	30.00	152.49
Pesticides		0.00	4.09	0.00	0.00	0.00	0.00	6.48	0.00	0.00	0.00	0.00	13.00	53.00	900.88	48.00	948.88
PCBs & Dioxins		0.00	0.00	0.00	9.68	0.00	0.00	0.00	0.00	0.58	0.00	3.00	4.00	0.00	237.59	0.00	237.59
Oily Sludges		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	29.00	4.00	0.00	222.23	0.00	222.23
Halogenated Organic Sludges & Solids		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	6.00	0.00	6.00
Nonhalogenated Organic Sludges & Solids		1.41	0.11	4.20	2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	54.00	613.96	34.00	647.96
Dye & Paint Sludges & Resins		0.58	0.01	0.57	0.62	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	120.00	286.85	268.00	554.85
Metal-Containing Liquids		0.00	0.00	0.25	0.06	0.00	0.00	0.00	0.21	0.00	0.00	0.00	3.00	40.00	513.92	98.00	611.92
Cyanide & Metal Liquids		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00	15.94	0.00	15.94
Nonmetallic Inorganic Liquids		1.78	0.03	6.37	2.44	0.00	0.00	0.98	3.71	0.00	0.00	0.00	4.00	120.00	570.00	154.00	724.00
Metal-Containing Sludges		0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.00	320.44	0.00	320.44
Nonmetallic Inorganic Sludges		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.30
Contaminated Soil		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Wastes		44.96	1.47	1.96	3.10	0.17	0.00	1.13	0.85	0.00	0.00	131.00	12.00	2298.00	4501.97	158.00	4659.97
TOTAL		149.31	6.35	25.09	21.34	0.17	0.55	8.59	4.77	0.58	5.00	420.00	56.00	6543.00	17767.41	1367.00	19134.41

potential waste reduction be quantified and applied to the projected quantities of hazardous waste generation for the year 2000 in the final drafts of their plans. Projections presented in Table 5-9 (DHS Table K) will be revised in the final draft Plan upon application of the waste reduction methodology. For further discussion of waste reduction and its impact on waste generation refer to Section 6.0.

#### Household Hazardous Waste

Within the AMBAG region, future generation of household hazardous waste is projected to increase from 991 tons in 1986 to 1,367 tons in the year 2000. This 38 percent increase is based on estimates by Santa Cruz and Monterey Counties. Table 5-9 (DHS Table K) presents these estimates by waste group and also includes them in the total of all projected waste streams.

Three waste groups make up the majority (61%) of this waste stream: waste oil (346 tons); dye and paint sludges and resins (268 tons); and nonhalogenated solvents (217 tons).

Monterey County projected future quantities of household hazardous wastes as a product of current generation and future population growth. A 20 percent increase in waste production reflects a projected 20 percent increase in the number of households within Monterey County. Santa Cruz County estimates that household hazardous waste generation will increase faster than population growth based on experience with solid waste generation. Therefore, current waste generation in Santa Cruz County is multiplied by the estimated increase in residential solid waste generation of 1 percent per capita per year to yield an overall 51% percent increase by the year 2000.

#### Contaminated Sites and Leaking Underground Tanks

Information required to estimate the quantity of future contaminated site and leaking underground tank cleanup waste is extremely limited. Neither the DHS, the Regional Water Quality Control Board, nor local county agencies have developed methodologies to determine quantities of waste generated through site remediation due to the complexity of the task.

The Santa Cruz County Plan does not quantify the future waste stream to be expected from site cleanups. Monterey County chose to use an average of its 1985 and 1986 quantities of these wastes as a "worst case" estimate for the year 2000. These values are presented in Table 5-10 (DHS Table L) and represent the regional estimate as well.

#### New Waste Streams

Using AMBAG's economic forecasts and local planning department input, it is expected that the region will not experience an influx of new industry that would significantly modify the





TABLE 5-10

PROJECTED QUANTITIES OF CLEANUP WASTES  
IN THE AMBAG REGION  
(Tons)  
(DHS TABLE L)

Waste Group	Under- ground Tanks	Old Disposal Sites	Closed Toxic Pits	Other Cleanup Wastes	Total
Waste Oil				3	3
Halogenated Solvents				0	0
Nonhalogenated Solvents				1	1
Organic Liquids				0	0
Pesticides				0	0
PCB's & Dioxins				0	0
Oily Sludges				2	2
Halogenated Organic Sludges & Solids				0	0
Nonhalogenated Organic Sludges & Solids				0	0
Dye & Paint Sludges & Solids				0	0
Metal-Containing Liquids				0	0
Cyanide & Metal Liquids				0	0
Nonmetallic Inorganic Liquids				0	0
Metal-Containing Sludges				0	0
Nonmetallic Inorganic Sludges				0	0
Contaminated Soil				4,081	4,081
Miscellaneous Wastes				304	304
TOTAL				<u>4,391</u>	<u>4,391</u>

1. Monterey County could not determine projected quantities of cleanup wastes from leaking underground tanks, old disposal sites, and closed toxic pits due to insufficient data.
2. Santa Cruz County data not available, (2/29/88).



region's hazardous waste stream. Growth is anticipated within the existing industries and has been taken into account by the growth and population projection factors used to project the industrial waste stream to the year 2000 (Table 5-9, DHS Table K).

### **5.3 Waste Generation for San Benito County**

San Benito County has prepared a Hazardous Waste Management Plan for its jurisdiction. Waste generation data from the San Benito County Plan are summarized on Tables 5-11 and 5-12. Wastes generated and shipped offsite for Treatment in 1986 totalled 1,483 tons. Estimates of wastes in the year 2000 range between 2,356 tons and 3,771 tons. These estimates include quantification of waste reduction resulting from minimization programs proposed for implementation.

These data will be used to determine compatibility of the AMBAG RHWMP with the San Benito County Plan in Section 7 as required by DHS Guidelines.



TABLE 5-11

HAZARDOUS WASTES GENERATED AND SHIPPED OFFSITE  
FOR TREATMENT- SAN BENITO COUNTY  
1986 (Tons)

Waste Group	Industrial/ Commercial	Household	Total
Waste Oil	764	25	789
Halogenated Solvents	22	5	27
Nonhalogenated Solvents	25	0	25
Organic Liquids	22	2	24
Pesticides	104	2	106
PCBs & Dioxins	0	0	0
Oily Sludges	21	0	21
Halogenated Organic Sludges & Solids	0	0	0
Nonhalogenated Organic Sludges & Solids	40	3	43
Dye & Paint Sludges & Resins	24	18	42
Metal-Containing Liquids	2	0	2
Cyanide & Metal Liquids	1	0	1
Nonmetallic Inorganic Liquids	253	6	259
Metal-Containing Sludges	3	0	3
Nonmetallic Inorganic Sludges	0	0	0
Miscellaneous Wastes	<u>129</u>	<u>12</u>	<u>141</u>
<b>SUBTOTAL</b>	1,410	73	1,483
Contaminated Soils (one-time cleanups)	<u>0</u>	<u>0</u>	<u>0</u>
<b>TOTAL</b>	1,410	73	1,483



TABLE 5-12

PROJECTED HAZARDOUS WASTE GENERATION - SAN BENITO COUNTY  
2000 (Tons)

Waste Group	(1)		Total
	Industrial/ Commercial	Household	
Waste Oil	1,971	47	2,018
Halogenated Solvents	58	1	59
Nonhalogenated Solvents	64	9	73
Organic Liquids	56	4	60
Pesticides	268	4	272
PCBs & Dioxins	0	0	0
Oily Sludges	55	0	55
Halogenated Organic Sludges & Solids	0	0	0
Nonhalogenated Organic Sludges & Solids	103	5	108
Dye & Paint Sludges & Resins	62	32	94
Metal-Containing Liquids	4	0	4
Cyanide & Metal Liquids	2	0	2
Nonmetallic Inorganic Liquids	653	11	664
Metal-Containing Sludges	8	0	8
Nonmetallic Inorganic Sludges	0	0	0
Miscellaneous Wastes (1)	<u>333</u>	<u>21</u>	<u>354</u>
<b>SUBTOTAL</b>	3,637	134	3,771
Contaminated Soils (one-time cleanups)	<u>0</u>	<u>0</u>	<u>0</u>
<b>TOTAL</b>	3,637	134	3,771

(1) High and low projections were provided for industrial/commercial wastes. The high projections are depicted below.

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## 6.0 WASTE MINIMIZATION PROGRAMS

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### Hazardous Waste Reduction

State and federal regulations provide a driving force for moving industry towards waste reduction as a principal waste management method. More specifically in the 1984 Hazardous and Solid Waste Amendments (HSWA):

- Section 3002(b) of HSWA requires generators to certify on their waste manifests that they have a program in place "to reduce the volume or quantity and toxicity of such waste to the degree determined by the generator to be economically practicable."
- Section 3005(h) of HSWA requires the same certification for any new permit issued for treatment, storage or disposal of hazardous waste.
- Section 3002(a,6.) of HSWA requires, as part of any generator's biennial report to EPA, that the generator describe "the efforts undertaken during the year to reduce the volume and toxicity of waste generated" as well as "changes in volume and toxicity of waste actually achieved during the year in question in comparison with previous years, to the extent such information is available for years prior to enactment of HSWA."

Although these regulations encourage waste generators to consider waste reduction, it is at the generators' discretion to determine what they consider attainable.

Waste reduction is generally recognized as an economically and environmentally sound method of dealing with hazardous waste. However, the potential for waste reduction is evaluated differently by different people. Optimistic reports of up to 70% , and sometimes close to 100%, have left the impression by many that waste reduction is able to solve almost the entire hazardous waste management problem. This is partly due to different definitions of waste reduction being used. Therefore, to be meaningful a waste reduction discussion requires a precise definition of terms.

### Definition of Waste Reduction

As noted above various definitions of waste reduction are being used. In principle these definitions may be equally valid; however, for the consistency of the HWMP's a definition adopted by the State Department of Health Services (DHS) is used here:

"Waste reduction includes onsite practices that reduce, avoid or eliminate the need for offsite hazardous waste facilities. It involves source reduction, recycling and treatment. Source reduction includes process measures which reduce the volume or toxicity of hazardous materials used or wastes generated. This is the most environmentally sound and economically sensible means of addressing the growing problem and is fundamental to sound hazardous waste management."

Using this definition offsite recycling is not considered to be waste reduction. This does not mean that offsite recycling is discouraged, but only that it is considered an offsite treatment. (Offsite treatment is addressed in Section 7 of this plan.)

The principle means of waste reduction give in order of decreasing priority are:

- Source Reduction
- Onsite Recycling
- Onsite Treatment

A schematic overview of waste reduction in terms of methods, activities and applicable waste streams is given in Table 6-1.

#### Existing Waste Reduction Practices

The larger hazardous waste generators within the AMBAG region were surveyed by Santa Cruz County and Monterey County to determine their generation practices including existing and proposed any hazardous waste reduction practices. The Santa Cruz County Hazardous Waste Management Plan indicates that several firms plan to implement waste reduction practices. Specific information regarding the types or quantities of wastes to be reduced was not disclosed in the Plan. Monterey County identified eight generators who indicated that steps were being taken to reduce their hazardous waste streams. Most of these waste reduction proposals involve the substitution of hazardous materials with nonhazardous ones in the production process.

Both Monterey and Santa Cruz counties have identified waste minimization as high priority programs. The Monterey County HWMP recommends developing a County Waste Reduction Program and using the MCHWMP Advisory Committee as a task force on waste reduction. The Santa Cruz HWMP also indicates that source reduction and waste minimization are of special importance for Santa Cruz County. The plan recommends that the County of Santa Cruz play an active role together with industries in promoting reduction measures and waste minimization.

TABLE 6-1

## WASTE MINIMIZATION TECHNIQUES

METHODS	ACTIVITIES	WASTE STREAMS
SOURCE REDUCTION	<b>Good Housekeeping Practices</b>	All Wastes Have Some Potential for Source Reduction
	o Waste stream segregation	
	o Inventory control	
	o Employee control	
	o Spill/leak prevention	
	o Scheduling improvement	
	<b>Product/Material Substitution</b>	
	<b>Technology Modification</b>	
	o Improved controls	
	o Process modifications	
	o Equipment changes	
	o Energy conservation	
	o Water conservation	
ONSITE RECYCLING	o Processed to recover usable product	Solvents
	o Regeneration	Oils
		Metals
		Empty Containers
ONSITE TREATMENT	o Neutralization	Acids
	o Precipitation	Bases
	o Filtration	Plating wastes
	o Evaporation	Solvents
	o Incineration	Oils
	o Oxidation/Reduction	
	o Residue Encasement	





The generalized method recommended by the Department of Health Services is used in this plan to project future waste reduction. In view of many ongoing activities in the area of waste reduction including waste audit studies, waste reduction programs, and development of new technology, projections of future waste reduction are very uncertain. Thus, waste reduction projections should be updated as more information becomes available.

#### Potential for Waste Reduction

The potential for waste reduction is determined by a number of factors including the following significant ones:

- Size and nature of the waste generating industries (typically it is more feasible for large generators to reduce waste than small generators)
- Type, quantity and concentration of generated waste
- Current management practices (e.g. offsite disposal, onsite treatment, offsite recycling, etc.)
- Existence of a county or regional waste reduction program

#### Size and Nature of the Waste Generating Industries

Waste generation within the region originates from manifested wastes (6,247.5 tons, excluding wastes from site cleanups, transfer stations and waste reduction), from cleanups (5,902.8 tons), from small quantity generators (10,929.8 tons ) and from households (991.0 tons). Manifested wastes excluding one-time cleanups account for 34% of the total waste stream. Some of the generators of manifested wastes may also be small quantity generators. Plans for waste reduction exist for considerable quantities of non-halogenated organic sludges and solids. These facts strongly influence the waste reduction potential as well as the approach to waste reduction which can be taken within the AMBAG region.

#### Types and Quantities of Waste Generated

A breakdown of the types of hazardous waste generated within the AMBAG region follows:

*	
<u>WASTE GROUP</u>	<u>% OF TOTAL WASTE STREAM</u>
Waste Oil	45
Non-halogenated Solvents	4
Halogenated Solvents	3
Various Inorganic Liquids	6
Dye and Paint	2
Miscellaneous/Other Wastes	40
	100

\* Non-household and Household Wastes

## Waste Oil

As shown above waste oil is the predominant waste generated. Except for good housekeeping practices, few of the methods and activities are applicable for waste reduction. It is likely that a reduction in volume of waste oil is possible through the avoidance of spills and mixing oil with water, solvent and gasoline. However, source reduction from material substitution and technology modifications is unlikely.

Onsite treatment and recycling are generally not viable; however, offsite recycling is applicable to approximately 60% of the generated waste oil. Although offsite recycling is a highly appreciated treatment method, as noted earlier it is not included in the DHS definition of waste reduction.

## Solvents - Halogenated and Non-Halogenated

Solvent wastes are produced in small quantities in many industries in the AMBAG Region. A significant portion of the generators are small. Certain industry groups, however, are producing the major quantities.

Almost the entire spectrum of waste reduction activities is applicable to solvent waste. Additionally, offsite recycling is currently widely used. It is believed that the waste reduction potential suggested by the Department of Health Services for halogenated solvents of 9% and for non-halogenated solvents of 1% are in the low range, and higher percentages should be possible for this waste group. Thus, a waste reduction potential of 10% is used for each of these groups.

## Various Inorganic Liquids

To a large extent inorganic liquid wastes are generated through surface treatment of metals, which includes a limited number of relatively well defined processes such as pickling, etching, galvanizing, chrome plating, etc. Because the processes of surface treatment are almost universal, any waste reducing method developed is immediately applicable by a large number of generators. This is important when dealing with small generators for whom a tailored solution is often too expensive.

A number of methods applicable to surface treatment wastes are available. These methods include: 1) chemical treatment of wastes; and 2) physical separation of waste into a non-hazardous water fraction and a concentrate which can be recycled to the process (physical separation is based on reverse osmosis, evaporation, ion-exchange, etc.). Additionally, the methods are available in sizes suitable for small quantity generators, although payback economies are in favor of large throughput. For this waste group a reduction potential of 25% is suggested by the Department of Health Services.

## Miscellaneous and Other Wastes

The remaining waste quantities originate from a number of different and diverse sources for which no specific waste reduction measures can be recommended except the general one of "good housekeeping".

### Projected Waste Reduction

Table 6-2 shows projected industrial waste quantities, waste reduction potential, and reduced projected industrial waste quantity for each waste group for the year 2000. It is estimated that 1,195 tons of hazardous wastes could be reduced through waste reduction programs. This is in addition to the 5,641 tons which could be reduced through off-site recycling (Section 7).

### Current Management Practice and Options for Waste Reduction

Hazardous waste management practices are at a turning point with the phase out of land disposal and the introduction of alternative disposal methods. This shift as well as stricter enforcement are likely to enhance waste reduction in the future; however, to quantify the effect at this time is not possible.

Effective waste reduction programs should be tailored to suit the local industry and waste profile and targeted towards those sections providing the highest total waste reduction potential rather than addressing the entire waste generation. Within the AMBAG region:

- Waste generators are dominated by small quantity generators producing more than two-thirds of the total waste quantity;
- More than 50% of the waste quantity generated is either waste oil, solvents or paint;
- The major barrier to waste reduction is believed to be technical, i.e. lack of in-house expertise.

### Barriers To Waste Reduction

Waste generators face several types of barrier to successful waste reduction. In order to develop effective programs, these barriers must be identified. The barriers fall into the following four categories:

Technical Barriers impede a firm's ability to develop and implement waste reduction methods. These barriers include: lack of information on waste reduction methods; lack of in-house expertise to evaluate and implement waste reduction; and absence of readily available technologies.



TABLE 6-2

PROJECTED INDUSTRIAL WASTE GENERATION  
WITH WASTE REDUCTION MEASURES  
FOR THE YEAR 2000  
(Tons/Year)

Waste Group	Projected Industrial Waste Quantity	Waste Reduction Factor %	Projected Quantity with Waste Reduction
Waste Oil	7,976	8	7,338
Halogenated Solvents	703	10	633
Nonhalogenated Solvents	776	10	698
Organic Liquids	122	4	117
Pesticides	901	2	883
PCBs & Dioxins	238	0	238
Oily Sludges	222	8	204
Halogenated Organic Sludges & Solids	6	0	6
Nonhalogenated Organic Sludges & Solids	614	0	614
Dye & Paint Sludges & Resins	287	5	273
Metal-containing Liquids	514	25	386
Cyanide & Metal Liquids	16	25	12
Non-metallic Inorganic Liquids	570	25	428
Metal-containing Sludges	320	25	240
Non-Metallic Inorganic Sludges	0	25	0
Contaminated Soil	0	-	0
Miscellaneous Wastes	<u>4,502</u>	0	<u>4,502</u>
TOTAL	17,767		16,572





Financial Barriers prevent a firm from undertaking a waste reduction project because of funding inadequacies or lack of economical incentives.

Institutional Barriers can be either regulatory constraints or lack of awareness and commitment at the decision-making level in companies.

Physical Barriers such as lack of space on the property of the waste generator to install a facility or process can impede waste reduction.

Although any of the above barriers to waste reduction may be relevant, technological barriers are certainly predominant. This might especially be the case in the AMBAG region where most waste generators are small.

A major waste reduction effort will generally require an analysis of the existing process, an assessment of potential process modification and readily available technologies. In-house expertise for such an analysis may not always be available in a small company.

Small quantity generators will implement waste reduction if they are aware of the waste reduction possibilities, if there is no adverse effect on the main activity, preferably a proven record, and if it is economically feasible.

It is believed that financial barriers generally do not prevent waste reduction since a number of measures do not require large investments. However, certain waste reduction activities do require investment in equipment, and thus financial barriers may influence the degree of waste reduction. Examples of this are recovery units such as reverse osmosis units, evaporators or distillation units which for small generators may represent a large investment. In addition, lack of capital and staff to conduct waste studies and identify and implement strategies may be a barrier for smaller industrial generators. Although source reduction is often a long-term money-saver, even a rapid payback period is of relatively little value for a business that does not have capital for initial investments. Larger generators usually fund reduction efforts from current capital.

Institutional barriers and physical barriers may in individual cases prevent or limit waste reduction; however, on the whole they are not considered decisive.



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## 7.0 COUNTY AND REGIONAL HAZARDOUS WASTE FACILITIES

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### 7.1 Regional Facility Needs Analysis

#### Treatment Capacity

According to information supplied by DHS, the only existing offsite treatment, storage and disposal (TSD) facilities within the AMBAG region are incinerators for waste oil with a very small total capacity (97.6 tons/yr).

In addition, plans for onsite reduction of non-halogenated organic sludges and solids are being implemented by Texaco and Mobil within Monterey County. These plans are already incorporated as existing facilities in the waste projections and facility needs assessments.

#### Treatment Methods

The treatment methods suggested for current and projected waste quantities are in general based on the recommended primary and alternative treatment methods given in Table E-1 of the Technical Reference Manual of the DHS Guidelines with few exceptions. Furthermore, a quantitative split-up between primary and alternative treatment methods has been made in order to get the best estimate of current and future needs. The following treatment methods are assumed for the principal categories of wastes generated in the AMBAG region.

Waste Oil: Currently 60% of the waste oil generated within California is recycled. This percentage could increase or decrease in the future depending on oil prices and regulations. For this plan 60% is assumed for oil recovery (recycling) and 40% for incineration.

Halogenated and Non-halogenated Solvents: A 50%/50% split is assumed between solvent recovery and incineration.

Organic Liquids and Pesticides: A 50%/50% split is assumed between aqueous organic treatment and incineration.

PCB & Dioxins, Oily Sludge, Halogenated and Non-halogenated Sludges and Dye and Paint: Incineration is the treatment method assumed for 100% of these wastes.

Metal, Non-metal and Cyanide Liquids: Aqueous treatment-metals/neutralization is the treatment method assumed for 100% of these wastes.

Metal and Non-metal sludges: A 50%/50% split is assumed between aqueous treatment and stabilization.

between aqueous treatment and stabilization.

Contaminated Soil: A 50%/50% split is assumed between incineration and stabilization. (Bioreclamation has not been included as a treatment method for contaminated soil in accordance with DHS recommendations.)

Miscellaneous Wastes: 75% of the wastes which fall into this category are assumed to be stabilized, 5% are recycled and 20% are incinerated.

#### Current Transfer, Storage and Disposal (TSD) Facility Requirements

Based on the preceding section, the current waste quantities have been translated into capacity requirements for each treatment method. Table 7-1. (DHS Table D) presents the treatment capacity required to accommodate the current generation of industrial hazardous wastes, household hazardous wastes, and contaminated soil generated by one-time cleanup efforts. The only existing treatment capacity within the AMBAG region is a small incinerator which treats a small quantity of waste oil. Therefore, the capacity requirements and the capacity deficiency are equal, except for incineration. It should be noted that oil recovery, solvent recovery and other recycling treatment methods are actually offsite recycling methods, and as such represent waste minimization techniques.

Current treatment methods result in residuals which must be disposed of properly. Table 7-2 identifies the current needs capacity for residuals disposal.

In summary, Table 7-3 reflects the current treatment capacity needed to treat the entire waste quantities within the region. It is important to note that the current waste quantities within each treatment method are too small to sustain local treatment facilities. Likewise, the tonnage of treated waste that would have to be taken to a residuals repository does not seem to be sufficient to sustain an economically viable residuals repository for the AMBAG region. Table 7-4 presents the minimum waste requirements to support various waste management facilities.

#### Projected TSD Facility Requirements for the AMBAG Region

Section 5.2 of this plan estimated the quantity of hazardous waste that the AMBAG region would produce by the year 2000. Section 6.0 then showed the extent of wastes that would be projected to occur if the counties implement comprehensive waste reduction programs. This section shows the treatment capacity that will be necessary if the region is to completely manage its own wastes by the year 2000. Table 7-5 (DHS Table N) displays total projected quantities of hazardous wastes generated by the AMBAG region generators. Table 7-6 (DHS Table



TABLE 7-1  
AMBAG REGION  
CURRENT TREATMENT CAPACITY REQUIREMENTS

Waste Group	Aqueous Treatment Organic	Aqueous Treatment Metals/ Neutralization	Incineration	Solvent Recovery	Oil Recovery	Other Recycling	Stabilization	Total
Waste Oil			3248.64		4872.96			8121.6
Halogenated Solvents			285.6	285.6				571.2
Nonhalogenated Solvents			408.35	408.35				816.7
Organic Liquids	128.1		128.1					256.2
Pesticides	507.6		507.6					1015.1
PCBs & Dioxins			152.70					152.7
Oily Sludges			226.1					226.1
Halogenated Organics - Sludges & Solids			4.3					4.3
Nonhalogenated Organic-Sludges & Solids			418.1					418.1
Dye, Paint Sludges & Resins			428.1					428.1
Nickel Bearing Liquids		507.4						507.4
Cyanide & Metal Liquids		12.1						12.1
Non-metallic Inorganic Liquids		537.2						537.2
Metal Bearing Sludges		120.15					120.15	240.3
Non-metallic Inorganic Sludges		725.1					725.1	1450.2
Contaminated Soils			2761.2				2761.2	5522.4
Miscellaneous (1)			682.18			170.55	2558.18	3410.9
Required Treatment Capacity	635.75	1901.95	9250.9	693.95	4872.96	170.55	6164.63	23690.6
Existing Capacity			97.6					97.6
Capacity Deficit	635.75	1901.95	9153.3	693.95	4872.96	170.55	6164.63	23593.04

(1) Excludes wastes from site cleanups of 380.4 tons. Such wastes might be incinerated or stabilized depending on the composition. If a 50%/50% split is assumed the required treatment capacity for incineration and for stabilization is increased by 190.2 tons/year for each treatment.

TABLE 7-2

RATIO OF RESIDUALS PRODUCED BY  
GENERALIZED TREATMENT METHODS

Generalized Treatment Method	Residual Factor	Current Needs Capacity for Residuals Disposal (tons/year)
Aqueous Treatment - Organic	10%	63.57
Aqueous Treatment - Metals/Neutralization	50%	950.98
Incineration	10%	925.09
Incineration of Wastes from Cleanups	10%	18.18
Solvent Recovery	20%	138.79
Oil Recovery	20%	974.59
Other Recycling	0	0
Stabilization	120%	7397.56
Stabilization of Wastes from Cleanups	120%	218.1
Residuals Disposal Total:		10686.86

## Notes:

- 1) If generalized treatment methods were applied.
- 2) Residues from solvent oil recovery are expected to go to incineration rather than residuals disposal. This increases the quantity incinerated by an extra 1110 tons/year and reduces the residuals disposal by 1000 tons/year.

TABLE 7-3

AMBAG REGION  
CURRENT NEEDS CAPACITY  
VERSUS  
TREATMENT CAPACITY  
(Tons/Year)

Tables 7 and 7-1 are summarized as follows:

Generalized Treatment Method	(1) Current Waste Generation in Region	Offsite Treatment Capacity	Total Existing Capacity	Excess+/ Deficiency
Aqueous Treatment - Organic	636			- 636
Aqueous Treatment - Metals/Neutralization	1,902			- 1,902
Incineration	9,335	(2) 97.6	97.6	- 9,237
Solvent Recovery	694			- 694
Oil Recovery	4,873			- 4,873
Other Recycling	171			- 171
Stabilization	6,346			- 6,346
Residuals Disposal	10,687			-10,687
<u>TOTAL</u>	<u>34,664</u>	<u>97.6</u>	<u>97.6</u>	<u>34,546</u>

(1) After reduction

(2) Santa Cruz County has one commercial facility which incinerates waste oil as part of its operation

TABLE 7-4

## TREATMENT FACILITIES' MINIMUM WASTE REQUIREMENTS

Treatment Facility	Minimum Quantity of Hazardous Wastes	
	(For A Small Facility) Los Angeles Estimate <sup>1</sup>	DHS Estimate <sup>2</sup>
Aqueous Treatment Organic	70,000 tons/yr	10,000
Aqueous Treatment Metals-Neutralization	70,000 tons/yr	10,000
Incineration	30,000 tons/yr	5,000
Solvent Recovery	70,000 tons/yr	10,000
Oil Recycling	75,000 tons/yr	10,000
Other Recycling	75,000 tons/yr	10,000
Stabilization	15,000 tons/yr	5,000
Bioreclamation	75,000 tons/yr	10,000
Residuals Repository	75,000 tons/yr	10,000
Transfer/Storage	na	10,000

(1) Source: Los Angeles County Department of Public Works, 1987.

(2) Source: DHS Technical Reference Manual for the Guidelines for the Preparation of Hazardous Wastes Management Plans, 1987.

TABLE 7-5  
TOTAL PROJECTED QUANTITIES OF HAZARDOUS WASTE GENERATION  
(Tons/Year)

Waste Group	Projected Industrial Waste Before Reduction	Projected Industrial Waste After Reduction	Projected Cleanup Waste	Projected Household Waste	TOTAL Before Reduction	After Reduction
Waste Oil	7976	7338	3	346	8325	7687
Halogenated Solvents	703	633	0	14	717	647
Nonhalogenated Solvents	776	698	1	217	994	916
Organic Liquids	122	117	0	30	152	147
Pesticides	901	883	0	48	949	931
PCBs & Dioxins	238	238	0	0	238	238
Oily Sludges	222	204	2	0	224	206
Halogenated Organic Sludges & Solids	6	6	0	0	6	6
Nonhalogenated Organ- inc Sludges & Solids	614	614	0	34	648	648
Dye & Paint Sludges & Resins	287	273	0	268	555	541
Metal-containing Liquids	514	386	0	98	612	484
Cyanide & Metal Liquids	16	12	0	0	16	12
Non-metallic Inorganic Liquids	570	428	0	154	724	582
Metal-containing Sludges	320	240	0	0	320	240
Non-Metallic Inorganic Sludges	0	0	0	0	0	0
Contaminated Soil	0	0	4081	0	4081	4081
Miscellaneous	4502	4502	304	158	4610	4610
TOTAL	17767	16572	4391	1367	23525	22330

(1) Projected new wastes including sludges from pre-treatment are unknown



TABLE 7-6  
AMBAG REGION  
PROJECTED NEEDS ASSESSMENT AFTER WASTE REDUCTION  
FOR COMMERCIAL HAZARDOUS WASTE TREATMENT FACILITIES  
(Tons/Year)

Waste Group	Aqueous Treatment Organic	Aqueous Treatment Metals/ Neutralization	Incineration	Solvent Recovery	Oil Recovery	Other Recycling	Stabilization	Total
Waste Oil			3075		4612			7687
Halogenated Solvents			323.5	323.5				647
Nonhalogenated Solvents			458	458				916
Organic Liquids	73.5		73.5					147
Pesticides	645.5		465.5					931
PCBs & Dioxins			238					238
Oily Sludges			206					206
Halogenated Organics - Sludges & Solids			6					6
Nonhalogenated Organic-Sludges & Solids			648					648
Dye, Paint Sludges & Resins			541					541
Nickel Bearing Liquids		484						484
Cyanide & Metal Liquids		12						12
Non-metallic Inorganic Liquids		582						582
Metal Bearing Sludges		120					120	240
Non-metallic Inorganic Sludges		0					0	0
Contaminated Soils			2040.5				2040.5	4081
Miscellaneous (1)			993			248	3723	4964
Required Treatment Capacity	539	1198	9068.0	781.5	4612	248	5883.5	22330.0
Existing Capacity			97.6					97.6
Capacity Deficit	539	1198	8970.4	781.5	4612	248	5883.5	22232.4

P) transforms the information from Table 7-5 using projected capacity requirements for each of the generalized methods available for treatment of these wastes. This table also includes the projected tonnage of wastes requiring disposal in a residuals repository after treatment will have occurred.

DHS guidelines indicate that Hazardous Waste Management Plans should analyze treatment capacity needs in terms of three scenarios. These are that existing onsite facilities in the region and offsite facilities, inside and outside of the region:

Scenario #1. Existing facilities meet rules and regulations.

Scenario #2. Existing facilities do not meet rules and regulations and choose not to modify, or are denied a permit and close.

Scenario #3. Existing facilities are modified to meet rules and regulations on an unknown time schedule. Assumptions as to probability of modification including time frames must be included.

In the AMBAG region only one commercial treatment facility exists. Two facilities within the region provide temporary storage for limited quantities of waste oil which is later treated at the aforementioned facility or shipped out of the region for treatment/disposal, (Table 7-7). AB 2948 required each Hazardous Waste Management Plan to include a description of current waste management and a projection of future capacity at existing out-of-county hazardous waste management facilities. Currently most of the AMBAG region's hazardous waste is transported as untreated waste to a number of receiving facilities outside of the region. These facilities are listed in Table 5-5 in Section 5.1.

The projected needs presented in Table 7-8 (DHS Table Q) are related to Scenario #1; the existing incineration facility in the region meets the rules and regulations and so do the other facilities inside and outside the region. Under this scenario the region still needs to develop new TSD facilities to meet the demand of treating 22,233 tons/year and disposing of 9,190 tons of residuals a year.

If scenario #2 is considered and existing facilities are not available for the treatment of the AMBAG region's hazardous wastes, it would be necessary to expedite additional in-county, or regional treatment and disposal options such as offsite and onsite treatment, recycling, and source reduction.

In consideration of Scenario #3, the facility modification schedule is uncertain. Thus, the availability of adequate treatment facilities to treat or dispose of waste generated

within the region would be uncertain, requiring the development of alternative waste treatment and disposal practices.

The analysis shows that the AMBAG region is currently producing and is projected to produce waste quantities which are hardly sufficient to support even local treatment or disposal facilities; thus there is clearly insufficient existing or projected hazardous wastes to support regionally sized treatment or disposal facilities.

TABLE 7-7

COMMERCIAL HAZARDOUS WASTE STORAGE CAPACITY  
AND ACTIVITY IN 1986  
(DHS TABLE G)

Facility: City of Santa Cruz Landfill  
Location: Santa Cruz

Storage Method	Average Monthly Quantity of Waste in Storage (tons)	Storage Capacity (tons)	% of Storage Capacity Used
Container	0.38	2.07	18.4
Tank	0	0	0
Waste Pile	0	0	0
Surface Impoundment	0	0	0
Other	0	0	0

Facility: Hedricks Distributors/Bayside Oil Corporation  
Location: Santa Cruz

Storage Method	Average Monthly Quantity of Waste in Storage (tons)	Storage Capacity (tons)	% of Storage Capacity Used
Container	0	0	0
Tank	44.75	84.00	53.3
Waste Pile	0	0	0
Surface Impoundment	0	0	0
Other	0	0	0

1. The City of Santa Cruz Landfill collects waste oil through the Curbside Recycling Program. Currently oil is stored for no more than 30 days before it is picked up by a commercial waste oil handling facility.
2. The Hedrick facility is a "route service" type operation which typically collects small quantities of waste oil from a large number of generators. Many of these generators may have applied to DHS for a variance enabling them to use a modified manifesting procedure.

TABLE 7-8

RATIO OF RESIDUALS PRODUCED BY  
GENERALIZED TREATMENT METHODS AFTER WASTE REDUCTION  
(Tons/year)

<u>Generalized Treatment Method</u>	<u>Residual Factor</u>	<u>Projected Needs Assessment for Residuals Disposal</u>
Aqueous Treatment - Organic	10%	53.9
Aqueous Treatment - Metals/Neutralization	50%	599.0
Incineration	10%	906.8
Solvent Recovery	20%	156.3
Oil Recovery	20%	922.4
Other Recycling	0	0
Stabilization	120%	7060.2
<hr/> Residuals Disposal Total:		9698.6



TABLE 7-9

AMBAG REGION  
PROJECTED NEEDS CAPACITY VERSUS  
TREATMENT CAPACITY  
(Excess or Deficiency)  
(Tons/Year)

Generalized Treatment Method	(1)			
	Projected Waste Generation in Region	Offsite Treatment Capacity	Total Existing Capacity	Excess/ Deficiency
Aqueous Treatment Organic	539			- 539
Aqueous Treatment Metals/ Neutralization	1198			- 1198
Incineration	9068	97.6	97.6	- 8970
Solvent Recovery	782			- 782
Oil Recovery	4612			- 4612
Other Recycling	248			- 248
Stabilization	5884			- 5884
Residuals Disposal	(2) 9699			- 9699
TOTAL	32030	97.6	97.6	- 31932

(1) After reduction

(2) Residues from oil and solvent recovery are expected to go to incineration rather than residuals disposal which would increase the quantity to incineration by an extra 1097 tons/year and reduce residuals disposal by 971 tons/year.

## 7.2 AMBAG Regional Siting Criteria

The State Department of Health Services requires the regional plan to integrate the County Plans within the region "to one coordinated whole." Because the siting criteria of the Monterey and Santa Cruz County Hazardous Waste Management Plans (Appendix A) differ in certain respects, AMBAG criteria uses the more stringent criteria where the two Counties' criteria differ.

The AMBAG and Monterey and Santa Cruz Counties' siting criteria closely adhere to the California Department of Health Service siting criteria guidelines. However, the Monterey and Santa Cruz Counties criteria have some particular major differences. The differences reflect the dissimilarities between the two county areas.

The AMBAG hazardous waste facility siting criteria follow:

### AMBAG Siting Criteria

1. **SEISMIC:** No facility shall be placed within 200 feet of an active or recently active fault, areas of high to moderately high liquefaction potential, and areas most susceptible to landsliding (slopes >15%). Unstable upland areas and recent alluvium designations are also considered high seismic hazards.
2. **FLOODPLAINS:** Residual repositories, treatment facilities, and industrial transfer and storage facilities shall not be placed in 100-year floodplains and areas subject to flooding by dam or levee failure and tsunamis, seiches, and areas subject to flooding by snowmelt, rainfall and coastal flooding.  
  
Small household transfer and storage facilities may be built in areas subject to 100 year flooding event (as mapped by the Federal Emergency Management Agency) if protected by engineered solutions, such as berms, raising above flood levels, etc.
3. **WETLANDS:** No facilities shall be located in wetlands such as saltwater, fresh water, and brackish marches, swamps, and bogs inundated by surface or groundwater with a frequency to support, under normal circumstances, a prevalence of vegetative or aquatic life which requires saturated soil conditions for growth and reproduction, as defined in adopted general, regional, or state plans.
4. **HABITAT OF ENDANGERED SPECIES:** No facilities shall be located within critical habitat areas or environmentally sensitive areas, as defined in adopted general, regional, or state plans.
5. **UNSTABLE SOILS:** Facilities located within these areas

shall have engineered design features to assure structural stability. This category includes steep slopes (greater than 30%) and areas subject to liquification and subsidence due to natural and manmade causes.

6. **SURFACE SUPPLY RECHARGE AREAS:** (to be added pending completion of Santa Cruz County Hazardous Waste Management Plan)

7. **GROUNDWATER RECHARGE AREAS: RESIDUALS REPOSITORIES** shall be prohibited within areas known or suspected to be supplying principal recharge to a regional aquifer or have known groundwater problems, as defined in adopted general, regional or state plans.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** Facilities should be discouraged from being located in such areas. If located in these areas, facilities shall provide properly engineered spill containment features, inspection measures, and other environmental protection controls.

8. **DISTANCE FROM RESIDENCES: RESIDUAL REPOSITORIES:** A buffer zone of at least 2,000 feet is required for any hazardous waste residual repository, unless the owner proves to Monterey County and the California Department of Health Services satisfaction that a 2,000 foot buffer zone is not required to protect public health and safety.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** Risk assessments shall be made when permitting a facility. This shall consider the physical and chemical characteristics of the specific type of wastes that will be handled, the design features of the facility, and any need for buffering residential areas or other sensitive areas from adverse emissions from a proposed facility.

9. **DISTANCE FROM IMMOBILE POPULATIONS AND PUBLIC FACILITIES:** Risk assessments, performed at time of permitting, shall be used to determine the need for buffer zones between the facility and immobile populations. This risk assessment will consider the physical and chemical characteristics of the specific types of wastes which will be handled and the design features of the facility and proximity to immobile populations. Immobile populations include schools, hospitals, convalescent homes, prisons, facilities for the mentally ill, airports, etc.

10. **PROXIMITY TO MAJOR TRANSPORTATION ROUTES: RESIDUAL REPOSITORIES:** Repositories should have good access to major transportation routes, but may have to be more distant from waste generation sites than other types of facilities because of their need for larger land areas.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** Facilities other than repositories should be located so as to minimize distances to major transportation routes and designed to accommodate heavy vehicles and extra length trucks.

**ALL FACILITIES:** Road networks leading to major transportation routes shall not pass through residential neighborhoods, should minimize residential frontage in other areas, and shall be demonstrated to be safe with regard to road design and construction, accident rates, excessive traffic, etc.

11. **PERMEABLE STRATA AND SOILS:** Permeability requirements as defined by State Water Resource Control Board in CAC Title 26, 23-2531 (b).
12. **DEPTH TO GROUND-WATER:** Residual repositories shall conform to the requirements of the State Water Resources Control Board. All aboveground facilities shall have engineered structural design features, common to other types of industrial facilities. These features would include spill containment and monitoring devices.
13. **NONATTAINMENT AIR AREAS: ALL FACILITIES:** Siting should not be precluded from these areas unless risk assessments performed as a part of permitting, considering the physical and chemical characteristics of the specific types of wastes that will be handled and design features of the facility, show that emissions will significantly contribute to nonattainment of standards, that such emissions cannot be mitigated and that the emissions from such facilities are significantly greater than those associated with transportation of hazardous wastes out of this area. Emissions associated with alternate transportation of hazardous wastes out of this area should also be evaluated.
14. **PREVENTION OF SIGNIFICANT DETERIORATION (PSD) AREAS:** Transfer and storage facilities could be permitted in PSD areas, if they are necessary to also handle potentially hazardous wastes generated by visitors or residents in recreational or cultural facility areas which are in the PSD zone. Unless an analysis for a specific proposed facility shows that air emissions cannot be adequately mitigated, all other facilities can be established in PSD areas. These facilities shall not be located near or within national parks, state parks, wilderness and memorial areas, and other similarly dedicated areas. In areas in compliance with national air quality standards, future emissions from new industrial transfer/storage and treatment facilities and residual repositories should be evaluated in terms of their potential for causing non-attainment.



15. **PRIME AGRICULTURAL LANDS:** All Facilities: Prime agricultural lands, under California law and as defined by county plans or California Department of Conservation Farmland Mapping Program, may not be used for urban purposes unless an overriding public need is served. When siting hazardous waste management facilities in these areas, overriding public service needs must be demonstrated.
16. **PUBLIC SERVICES:** For all facilities, public water and sewer services and emergency services should be readily available. In urban areas, public services shall be available. Self-sufficient services may be appropriate for rural industrial transfer/storage and treatment facilities, where these facilities are necessary to serve remote rural areas. Self-sufficient services may be necessary for residual repositories.
17. **PROXIMITY TO WASTE GENERATORS:** Large quantity generators of manifested hazardous waste shall be considered for industrial facilities. Repositories may be located more distant from waste generation sources than other facilities because of their need for larger land areas.
- ALL OTHER HAZARDOUS WASTE FACILITIES:** These should be located close to waste generation sources to minimize the risks of transportation.
18. **INDUSTRIAL, COMMERCIAL, AND SPECIFICALLY ZONED LANDS:** Hazardous waste management facilities, other than residuals repositories, are basically industrial facilities. Generally, it may be appropriate to site them in industrial and commercial zones. However, the siting of hazardous waste management facilities is not required to be limited to these zones if special zones are created. Because repositories usually require large land areas, it may not be practical or economical to site them in developed commercial or industrial areas. Areas to be considered for residual repositories should be rural, but not those designated as Prime Agriculture, or Recreation. Specially zoned areas or rezoning of other areas may be appropriate.
- The counties should have some type of zoning which will allow siting of different types of hazardous waste management facilities and the zoning should protect designated hazardous waste management sites from the encroachment of incompatible land use.
19. **RECREATIONAL, CULTURAL, SCENIC, OR AESTHETIC AREAS:** All hazardous waste facilities shall not be allowed in these areas. These areas are defined in locally adopted plans and include historic preservation and Indian Reservations.



20. **MINERAL RESOURCES AREAS:** No facilities shall be sited on existing mines and areas identified by U.S. Geological Survey or California Division of Mines and Geology as potential mineral resources areas. No facility shall be sited so as to preclude extraction of minerals necessary to sustain the economy of the State.
21. **MILITARY LANDS:** It is the policy of the Department of Defense that military land shall not be considered for establishment of public hazardous waste management facilities. This policy is considered non-negotiable by the Department of Defense. There are no military lands in Santa Cruz County.
22. **OTHER STATE, FEDERAL, AND INDIAN LANDS:** The criteria listed above are suitable for use in determining the suitability of lands within these areas for siting of hazardous waste management facilities.
23. **COASTAL ZONE:** Only transfer and storage facilities shall be located in areas that lie within the Coastal Zone, as identified in Chapter 3 of the California Coastal Act of 1976. Coastal Act legislation is designed to protect environmentally sensitive lands in the coastal region.
24. **LAND USE:** All facilities shall be consistent with surrounding land uses and populations.
25. **FACILITY SIZING:** Facilities should be sized to accommodate regional needs for Monterey, Santa Cruz, and San Benito Counties.

### 7.3 General Areas for Hazardous Waste Management Facilities

#### Monterey County Hazardous Waste Management Plan Description of Constraint and Opportunity Maps Methodology

In order to comply with hazardous waste management siting criteria established by the Monterey County Hazardous Waste Advisory Committee as well as the guidelines established by the California Department of Health Services, a series of constraint overlay maps and matrices were prepared by the Monterey County Planning Department. Through a process of overlaying of the constraint maps, "white holes" were located that depicted those areas with the fewest constraints.

A total of twenty one areas in the County were evaluated using the constraint mapping process. Each area's mapped constraints were recorded in the form of a constraints matrix. Based on the above described process, a total of seven candidate sites were selected as opportunity areas for hazardous waste facilities sites. The seven areas have the fewest constraints or the least severe constraints. The review process indicated that not all seven areas are suitable for all kinds of hazardous waste management facilities. Constraints like proximity to immobile populations and geotechnical limitations narrow uses to less than the full range of hazardous waste treatment facilities.

The first phase of the process was the analysis of the constraints set forth in the Monterey County General Plan, the Greater Salinas Area Plan, the Central Salinas Valley Plan, and the South County Area Plan. The resource maps in each plan were overlain as constraints to determine if a particular area were subject to hazards or other factors which would make a location undesirable.

From the General and Area Plans, the categories of constraints are defined as follows:

1. **SEISMIC ZONE:** Mapped seismic zones 4, 5, and 6, unstable upland areas, and recent alluvium designations are considered high seismic hazards.
2. **FAULTS:** Areas within 200 feet of a mapped fault trace.
3. **SLOPE:** Those areas with slopes greater than 30 percent are considered as a constraint.
4. **100 YEAR FLOODPLAIN:** Sites depicted on Federal Emergency Management Agency (FEMA) floodplain maps were recorded.
5. **DAM INUNDATION:** Inundation areas based on information from the Monterey County Flood Control and Water Conservation District.

6. **SOIL CONSTRAINTS:** Based on mapping and tabular information provided by the U.S. Soil Conservation Service for foundations and grading.
7. **PERCOLATION:** Based on mapping and tabular information provided by the U.S. Soil Conservation Service for soil percolation and clay content. If slow percolation is indicated, it means that a clayey soil is present.
8. **ENVIRONMENTALLY SENSITIVE AREA:** Based on General Plan mapping depicting natural resource areas which are particularly sensitive to man's land use activities including rare and endangered plants and animals and coastal marine habitats.
9. **CULTURAL AND ARCHAEOLOGY SENSITIVITY AREAS:** Areas depicted as "high sensitivity" indicating a study is necessary to determine if cultural resources exist.
10. **GROUNDWATER PROBLEMS:** Based on information from the Greater Salinas Area Plan. The other plans do not contain such information.
11. **PRIME AGRICULTURAL LAND:** Prime agricultural land as shown on General Plan maps. Other farmlands of importance are not considered a constraint.
12. **MINERAL RESOURCE AREA:** As mapped and designated by the State under the Surface Mining Reclamation Act of 1975.
13. **VISUALLY SENSITIVE AREA:** As mapped by the General Plan identifying scenic resources which because of their scenic value or unusual physical features should either be conserved or protected.
14. **LAND USE DESIGNATION:** As shown on the adopted land use plans. Constraints recorded are for potential incompatible land uses.
15. **COASTAL ZONE:** Areas in the Coastal Zone were noted.
16. **AIRPORT PROXIMITY:** Proximity to the Salinas Municipal Airport were noted.
17. **HIGHWAY PROXIMITY:** Distances taken from Title Company maps.
18. **PROXIMITY TO RESIDENTIAL AREAS:** Proximity to populated areas, cities, or towns.
19. **PROXIMITY TO IMMOBILE POPULATIONS AND PUBLIC FACILITIES:** Proximity to immobile populations and concentrations of populations were recorded.

20. **CURRENT USE:** General use of the area as shown on General Plan maps or from local knowledge of the area. Areas which have existing long term uses are considered as limiting factors for future hazardous waste facilities.

General Areas for Hazardous Waste Management  
Facilities in Monterey County

The areas described below are indentified in the Monterey County Hazardous Waste Management Plan as candidate areas for various types of hazardous waste management facilities. As candidate areas, each general area requires additional environmental analysis prior to any decision to locate waste management treatment facilities within the area.

**GENERAL AREA 1.** (Marina Area - Figure 7-10)

The area is approximately 1,500 acres situated in Monterey County with a small portion within the northeastern city limits of the City of Marina. The area is contiguous and east of the City of Marina, contiguous and north of the Fort Ord boundary, and approximately 1,500 feet south of the Salinas River. State Route 1 is about two miles west of the area.

The current land uses are industrial, farming, and grazing activities. Most of General Area 1 is within the adopted Sphere of Influence of the City of Marina. This Sphere of Influence is described as an Urban Transition Area for the City within the next five to twenty years. The potential use of the area is for transfer and temporary storage of hazardous wastes.

**GENERAL AREA 2.** (City of Salinas - Figure 7-11)

This 600 acre area lies in an industrial area of the City of Salinas bordered by U.S. Highway 101 near South Sanborn Road. The area has access from U.S. Highway 101 via Airport Boulevard and South Sanborn Road. The area has additional access by railway, Abbott Street, and Harkness Road. The area lies close to a large number of small and a few medium sized hazardous waste generators.

General Plan maps depict the area as a high hazard seismic zone, within a dam inundation area, with moderate soil constraints, one half mile from airport, and adjacent to residential and immobile populations and public facilities. The area is not within 200' of a known fault, has a flat slope, not in the 100 year floodplain, not an environmentally sensitive area, has a low cultural and archaeological sensitivity, not prime agricultural land, not a mineral resource area, and not visually sensitive.

The current land use is industrial and commercial. The potential use of this area is for transfer and temporary storage



of hazardous wastes only.

**GENERAL AREA 3** (Southwest of San Ardo - Figure 7-12)

This 2,500 acre area is about four miles south of San Ardo in a hilly portion of the Salinas Valley. Access from U.S. 101 is by San Bernardo and Alvarado Roads.

General Plan mapping represents the area as being in a high hazard seismic zone, not within 200' of a fault, not within 100 year floodplain, not within a dam inundation area, high soil constraints for foundations, not environmentally sensitive, not prime agricultural land, a low cultural and archaeological sensitivity, not a mineral resource area, and not visually sensitive.

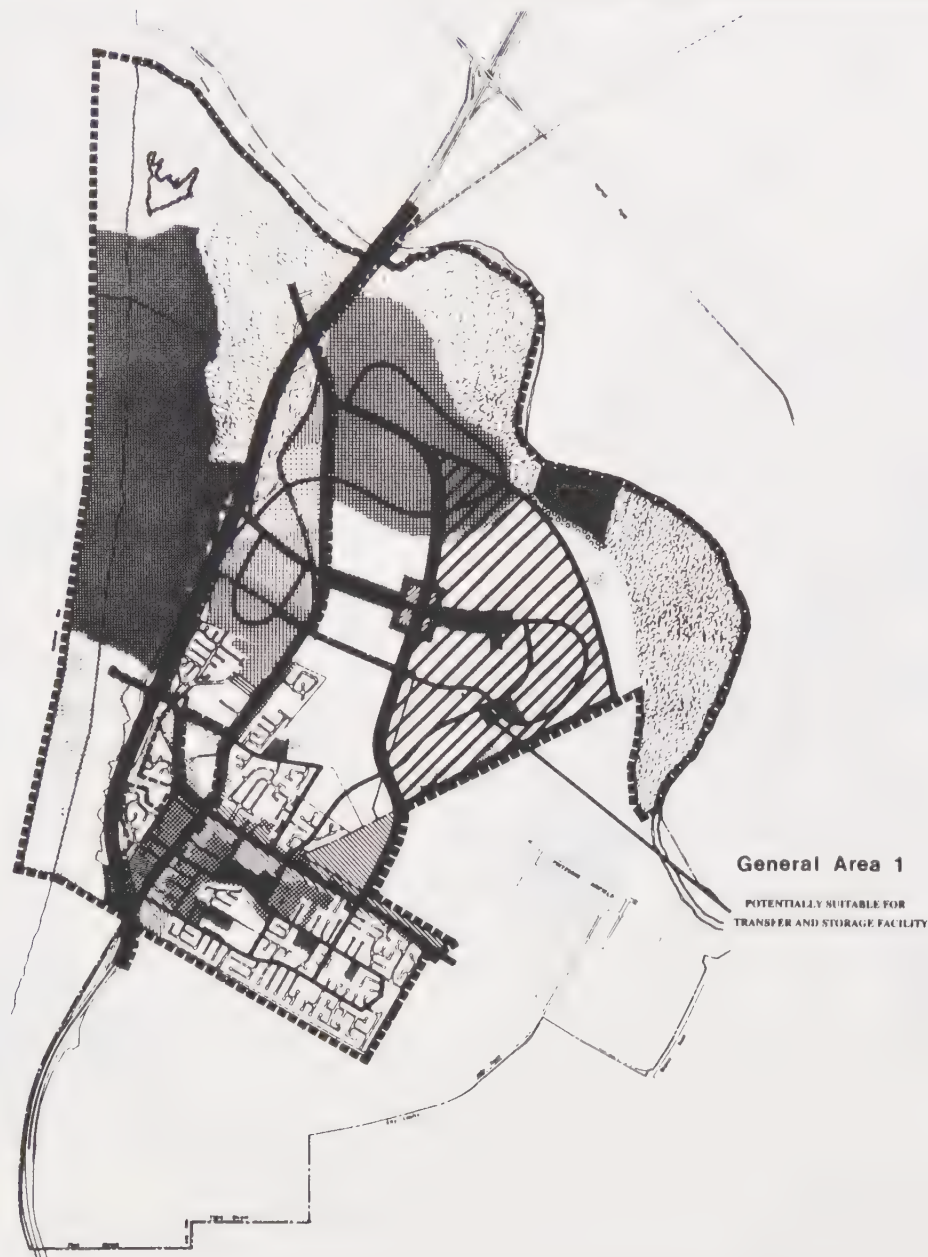
The area is currently used for oil production and grazing. The potential uses of this area are for transfer and temporary storage, treatment, recycling, solidification/stabilization, incineration, and residual repository of hazardous wastes.

Santa Cruz County Hazardous Waste Management Plan  
Description of Constraint Mapping and General Areas

(Pending completion of Santa Cruz Hazardous Waste Management Plan)



FIGURE 7-10



# CITY OF MARINA

## LAND USE AND CIRCULATION ELEMENT

### LEGEND

#### RESIDENTIAL

- Single Family (N.T.E. 7 DU/Gross Acre)
- Low Density Multiple Family (N.T.E. 14 DU/Gross Acre)
- Multiple Family (N.T.E. 21 DU/Gross Acre)

#### COMMERCIAL

- Neighborhood
- Community
- Highway

#### INDUSTRIAL

- Industrial-Research and Development-Professional Office
- Coastal Development

#### PUBLIC FACILITIES

- Public Grounds and Buildings
- Parks and Open Space

#### AGRICULTURE

- Agriculture

#### CIRCULATION SYSTEM

- Arterial
- Collector
- Local

- Planning Area Boundary
- Local Coastal Plan Boundary

#### COMMERCIAL/RESIDENTIAL

- Multiple Family (N.T.E. 16 DU/Gross Acre)



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Draft February 1988

# SALINAS GENERAL PLAN

	RESIDENTIAL - LOW DENSITY
	RESIDENTIAL - MEDIUM DENSITY
	RESIDENTIAL - HIGH DENSITY
	RETAIL
	ARTERIAL FRONTAGE
	OFFICE
	BUSINESS PARK
	GENERAL COMMERCIAL - LIGHT INDUSTRIAL

	GENERAL INDUSTRIAL
	PARKS
	PUBLIC SEMIPUBLIC
	AGRICULTURE
	FREEMAN
	ARTERIAL
	COLLECTOR
	EXPRESSWAY

## CENTRAL CITY INSET



























# SOUTH COUNTY PLANNING AREA

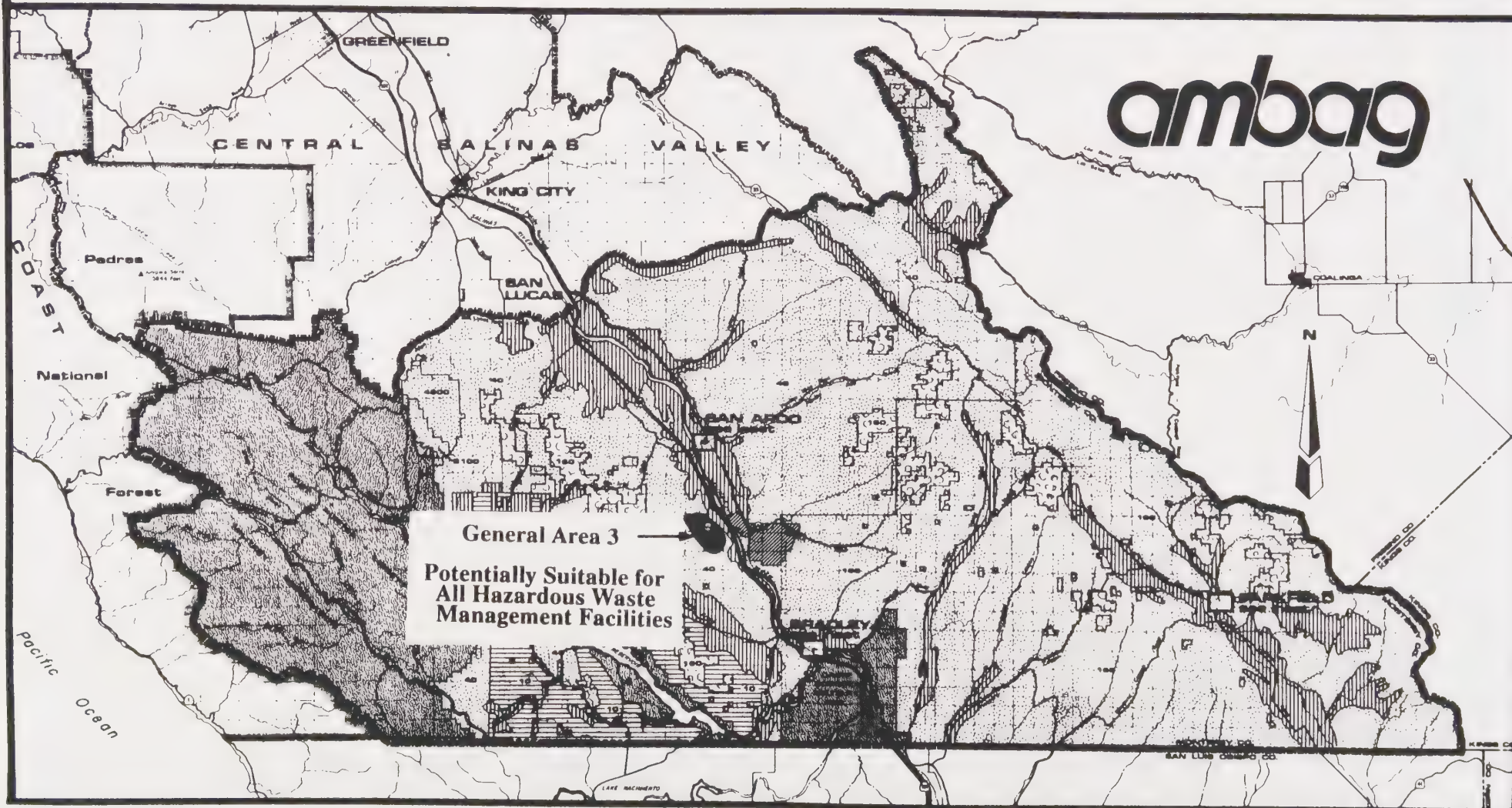
PLANNING AREA BOUNDARY (---)

## LAND USE PLAN

-  PUBLIC/QUASI-PUBLIC SCHOOL
-  EXISTING PARKS AND RECREATION
-  EXISTING WASTE DISPOSAL
-  TRANSPORTATION HIGHWAY
-  EXISTING MAJOR ARTERIAL
-  EXISTING SCENIC ROUTE
-  EXISTING RAILROAD
-  LANDS ADMINISTERED BY BUREAU OF LAND MANAGEMENT

-  RESIDENTIAL RURAL DENSITY 5 Ac./Unit
-  LOW DENSITY 5-1 Ac./Unit
-  MEDIUM DENSITY 1-5 Units/Ac.
-  HIGH DENSITY 5-20 Units/Ac.
-  COMMERCIAL
-  INDUSTRIAL
-  MINERAL EXTRACTION

-  AGRICULTURAL FARMLANDS 40 Ac. Min.
-  RURAL GRAZING 10-180 Ac./Unit
-  PERMANENT GRAZING 40-180 Ac. Min.
-  RESOURCE CONSERVATION 10-180 Ac./Unit (BLM LANDS ARE 160 AC. MIN.)
-  RIVERS AND WATER BODIES



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#### **7.4 Facility Requirements and General Areas for Hazardous Waste Facilities - San Benito County**

The San Benito County Hazardous Waste Management Plan indicates, "Current and future needs assessments indicate that quantities of hazardous waste requiring treatment/disposal are relatively small. There are insufficient quantities of such waste generated in San Benito County to provide the economic feasibility for siting of an in-County industrial treatment/disposal facility".

While the Plan appears not to make any recommendations regarding general areas for hazardous waste management facilities, it notes that there are two general areas which do not conflict with the constraint mapping undertaken in the planning process. These areas are located south of the San Benito River between San Juan Bautista and Hollister and between the San Benito River and Route 25, just south of Tres Pinos. The Plan states, "These areas may be potentially suitable for industrial treatment, storage and disposal facilities or residual repositories. Other areas which could potentially be suitable for residuals repositories with mitigation measures and which are accessible to STAA Truck routes are adjacent to Route 101 in the northwest corner of the county. Industrial transfer, storage and disposal facilities could potentially be located in industrial areas in San Juan Bautista or Hollister. However, engineering measures for spill-containment would be necessary to protect underlying groundwater".

The Plan indicates that transfer and storage facilities near Hollister and San Juan Bautista for household and commercial wastes would be an alternative to hauling these wastes out-of-County. The Plan also indicates, "The economics may appear stronger if a regional facility were sited to serve San Benito County and adjacent counties. San Benito County may promote a transfer station that has more than a storage and transfer function, i.e., a Hollister station may also serve other areas such as the contiguous unincorporated County, by serving as a household hazardous waste depot also."

The analyses, findings and recommendations in the San Benito County Hazardous Waste Management Plan are compatible with the AMBAG Regional HWMP, the Monterey County HWMP, and the Santa Cruz County HWMP.



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## 8.0 IMPLEMENTATION OF EXISTING REQUIREMENTS

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### 8.1 Transportation System

#### Existing Roads and Highways

The AMBAG region contains a 3280 mile network of city streets, county roads, state highways and U.S. highways. The region's major highways and roads and their proximity to major hazardous waste generators are shown in Figure 8-1. County roads are the largest component of the network. Most travel between cities, however, takes place on the state and U.S. highways. U.S. Highway 101, and State Highways 1, 68, and 156 in Monterey County, and State Highways 1, 17, 129, and 183 in Santa Cruz County carry the highest highway traffic loads in the region.

Wastes generated in the AMBAG region are currently exported to Kern, Kings, Santa Clara, San Mateo, Santa Barbara and Solano counties for treatment or disposal. The major routes that transporters currently utilize are depicted in Figure 8-2. These routes are designated by the California Vehicle Code, Section 31303. Highway 101 is a major route for transporting hazardous wastes through the region to major treatment/disposal facilities in Southern California, such as the Casmalia hazardous waste facility in Santa Barbara County.

#### Adequacy of Existing Hazardous Waste Transportation System

The Levels of Service (LOS) for the State designated hazardous waste routes are depicted on Figure 8-3. LOS is useful to describe the adequacy of the highway network in terms of capacity, as it is based solely on traffic volume data. Other criteria which must be evaluated in discussions of the adequacy of the existing transportation system for hazardous waste transportation routes include: road width and construction; grade; accident rates; curve radii; visibility; and service for emergency response.

Based on these criteria, Santa Cruz County Planning Department, Transportation Division, has determined that only the following roads within Santa Cruz County are suitable for the transportation of toxic wastes:

- Highway 17, South of Scotts Valley
- Highway 1, South of Davenport
- Highway 152, West of Carlton Road
- Highway 129

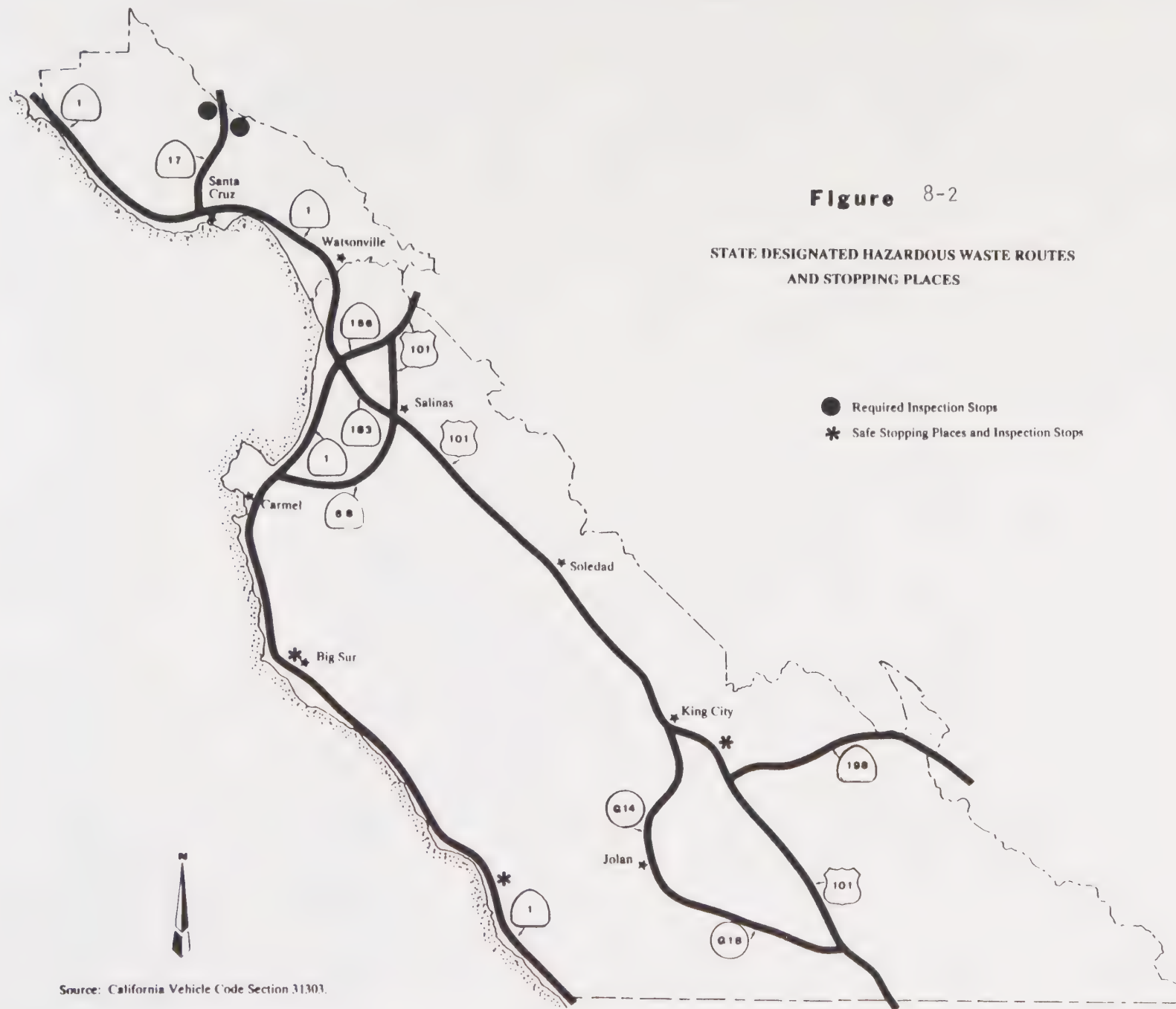
Monterey County has not evaluated its existing transportation system in this manner; however, transport of toxic wastes is limited to the following roadways as designated by the State:

Figure 8-1

# The AMBAG Region



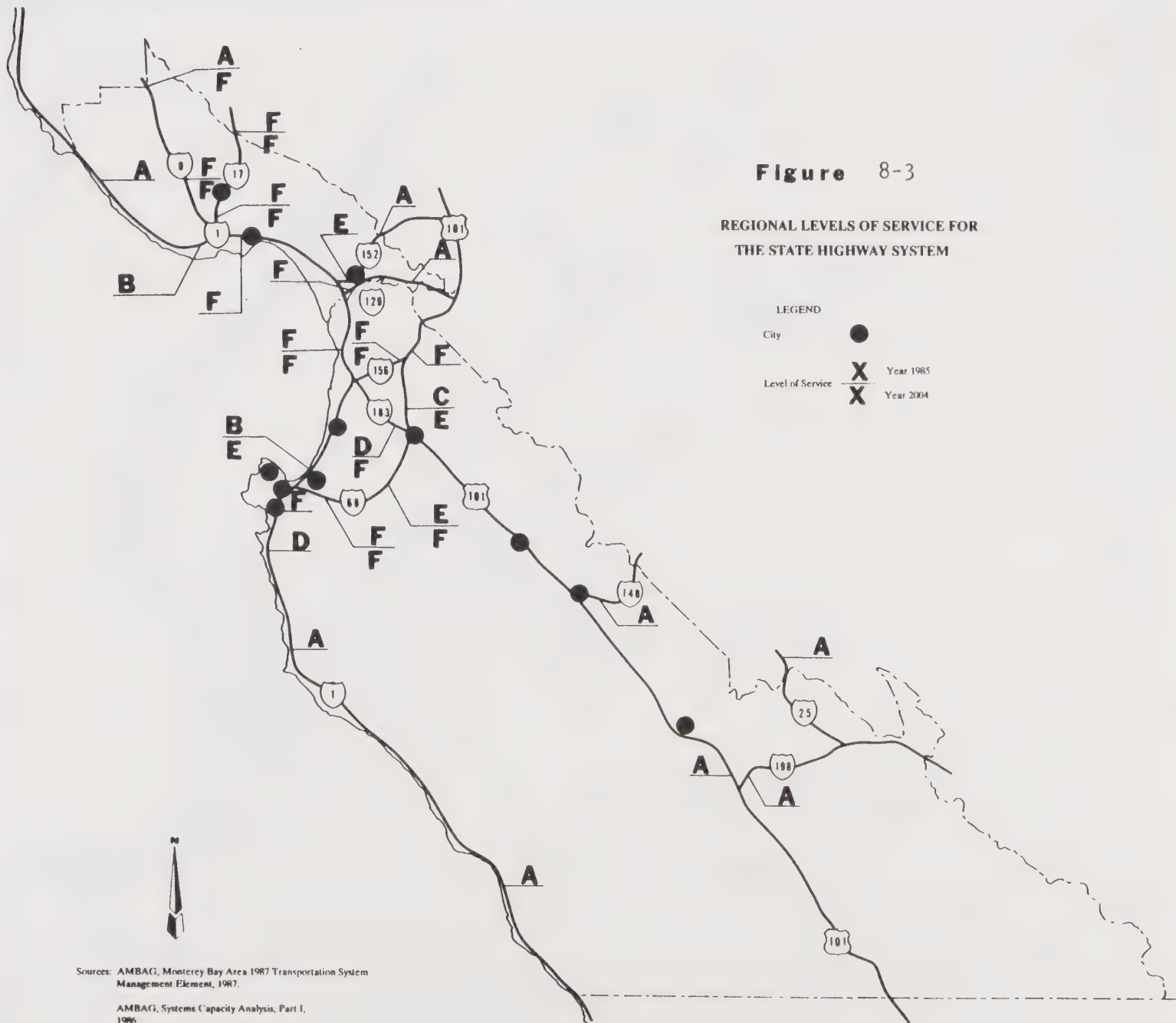




**Figure 8-2**

**STATE DESIGNATED HAZARDOUS WASTE ROUTES  
AND STOPPING PLACES**

Source: California Vehicle Code Section 31303.



- Highway 1
- Highway 68, east of Highway 1
- Highway 156
- Highway 183
- Highway 198
- County Road G 14
- County Road G 18

### Existing Regulations

Hazardous wastes which are treated or disposed of off-site are transported via city, county and State roads. There are numerous risks associated with the transport of hazardous wastes and hazardous materials. These include the possibility of exposure to the public and waste handlers due to traffic accidents, improper handling of the hazardous wastes and materials and improper labeling or identification of transported wastes. There are federal and State regulations that have emerged to address hazardous materials and hazardous waste management, including their transport from one site to another. There are also county and local regulations which address transportation concerns.

### Transport of Hazardous Waste

Several regulations exist to ensure proper handling of hazardous wastes while transporting between generator and treatment, storage and disposal facilities. These regulations are enforced by the Department of Health Services and California Highway Patrol and serve to limit the population's exposure to the risk presented by the necessary transport of these wastes.

The California Highway Patrol currently enforces Section 31303 of the California Vehicle Code which requires that:

- 1) transporters of hazardous waste must travel on the most direct route, utilizing state or interstate highways whenever possible and avoiding congested thoroughfares, residential areas and places where crowds are assembled;
- 2) transporters may use highways that provide reasonable access to fuel, repair facilities, and rest/food facilities designed to accommodate commercial vehicle parking. However, access must be consistent with safe vehicle operation and facility must be within 0.5 mile of identified points of entry or exit from the state or interstate highway being used;
- 3) Transporters are restricted to the use of highways of sufficient width and load-bearing capacity for the vehicle or combination of vehicles used;
- 4) Transporters may not leave vehicles containing hazardous wastes unattended or parked overnight in a residential area;

5) Transporters must comply with all provisions of the hazardous waste hauler transportation safety plan approved by the Department of Health Services when transporting hazardous wastes. Concurrence of the CHP is necessary to allow deviation from these routing requirements in emergency situations.

#### Transport of Explosives

The transport of explosives (including explosive hazardous wastes) is also restricted by the California Highway Patrol (CAC, Title 13). Regulations designate the highways, safe stopping places and inspection stops to be used for transportation of explosives. The only roads in the AMBAG region on which explosives may be transported are U.S. Highway 101, California State Highways 1, 17, 68, 198, and Monterey County Roads G14 and G18.

In addition, the City of Monterey Municipal Ordinance 20-116 prohibits flammable materials, flammable solids, and explosives from being transported through the Monterey Traffic Underpass.

#### Transporter requirements

California regulations require that all transporters of hazardous wastes obtain an Environmental Protection Agency (EPA) Identification Number. Generators may only use these identified transporters. Transporters must also comply with the hazardous waste manifest system and deliver wastes only to permitted transfer, storage and disposal facilities.

Hazardous waste transporters are also required to register with the Department of Health Services, pass certain financial assurance requirements, and have a minimum amount of training on hazardous waste handling and transport. Additionally, vehicles used for transport of hazardous wastes must pass annual inspections by the California Highway Patrol.

The transporter of hazardous wastes must also take appropriate immediate action in the event of waste discharge during transportation as required by the DHS. In addition, transporters must comply with Department of Transportation notification procedures regarding spills of hazardous substances.

#### Shipping Requirements

Generators of hazardous wastes must comply with Department of Health Services regulations (Section 66504) which require that hazardous wastes be packaged, labeled, placarded and marked according to federal Department of Transportation regulations (49 CFR Parts 172, 173, 178 and 179) before shipping hazardous wastes off site.



## Manifest Requirements

The Department of Health Services requires generators to complete a hazardous waste manifest for each shipment of wastes leaving the generating facility (Title 22, CAC 66480-66493). The uniform manifest provides the mechanism for complete tracking of the hazardous waste from generator to transfer, storage and disposal facilities. The manifest must include the generator's name, address, phone number and EPA identification number; the name and EPA identification number of each transporter; the name, address and EPA identification number of the designated facility which will receive the waste, and an alternate facility to receive the waste, if any; and a description of the type and quantity of each hazardous waste.

Department of Health Services manifest requirements also dictate that generators submit copies of manifests to the Department, confirm that the shipment reached the transfer, storage and disposal facility and submit summary reports to the Department biennially.

## Adequacy of Existing Regulations

Existing state and federal regulations are generally sufficient to regulate the transport of hazardous wastes. However, designated hazardous waste transportation routes should be reviewed periodically by the California Highway Patrol and city and county governments to ensure that they are still suitable. Primary considerations are road capacity and design, visibility, accident rates, current and projected levels of service, and land uses adjacent to the route. Maps depicting routes should be updated accordingly.

Policy considerations for route selection for transport between generators and future facilities should address the adequacy of the route as well as proximity of the facility to suitable transportation routes.

Local ordinances may be needed to regulate travel, including hours of travel by hazardous waste transporters on local streets.



## 8.2 Inspection, Technical Assistance and Enforcement

### Monterey County Programs

The Monterey County Environmental Health Division's Toxic Materials Control Branch is responsible for administering and managing hazardous material programs; coordinating emergency response, inspections and monitoring; enforcing the Hazardous Waste Generator Program; responding to toxic spills; inspecting, monitoring and enforcing underground storage tanks and hazardous material registration and business response plans (AB 2185/2187); investigating complaints; and maintaining a computerized registration of hazardous materials. County programs which address inspection, technical assistance and enforcement are discussed below:

#### Hazardous Waste Generators Inspection Program

Monterey County Environmental Health Division currently has the responsibility of annually inspecting hazardous waste generators pursuant to a Memorandum of Understanding with the State Department of Health Services, CAC Title 22, Div. 4 and Chapter 6.5 of the Health and Safety Code.

The Department of Environmental Health is the implementing agency for State legislation AB 2185/2187, as well as for County Ordinance 3040. The county ordinance requires businesses to submit annual inventories of stored hazardous materials. All businesses are required to submit a business plan and are scheduled to be inspected once a year. (Provisions of AB 2185/2187 are discussed under "Emergency Response Programs Required by State Legislation" in Section 8.4.)

#### Underground Storage Tank Inspection and Permitting Program

In Monterey County the Toxic Materials Control Branch is responsible for implementing state laws (AB 1362, Sher Bill) regulating the storage of hazardous materials in underground tanks. All underground tanks covered under this state law must be permitted. Permits are issued through local agencies having responsibility for implementing the Underground Storage Tank provisions. The State statute specifically allows counties or cities to enact their own underground storage tank ordinances that are at least as stringent as the state program. Monterey County Ordinance 3040 regulates underground tanks in Monterey County. Each city within Monterey County has adopted its own ordinance. The Division of Environmental Health is the lead agency for all underground tank programs, except for those in Monterey and Seaside, which are implemented by those cities' fire departments.

## Waste Acceptance Control Program

In recent years the Regional Water Quality Control Board has issued revised waste discharge requirements which require periodic load checking at solid waste landfills. The intent of the program is to discover and discourage attempts to dispose of hazardous wastes in solid waste landfills. The main features of the Monterey programs are: 1) to notify facility customers about applicable policies and procedures; 2) to conduct surveillance of incoming materials; and 3) to inspect random loads to discover and discourage prohibited wastes.

## Santa Cruz County Programs

The Santa Cruz Environmental Health Service (EHS) enforces federal, State and County regulations and provides consultation, inspection and technical assistance regarding water quality, food purity, septic tanks, solid waste disposal and certain aspects of housing and toxics control. Santa Cruz County programs which address inspection, technical assistance and enforcement are discussed below:

### Hazardous Waste Generators Inspection Program

The Santa Cruz County Environmental Health Service has a Memorandum of Understanding Agreement pending with the State Department of Health Services to assume all or part of the hazardous waste generator inspection responsibilities conferred by CAC Title 22, Div. 4 and Chapter 6.5 of the Health and Safety Code. The Environmental Health Service is currently the lead agency responsible for implementing hazardous material ordinances, including AB 2185/2187, in the unincorporated areas of the County, and in cities of Santa Cruz and Capitola through Memorandum of Understandings. (Provisions of AB 2185/2187 are discussed under "Emergency Response Programs Required by State Legislation" in Section 8.4.)

### Underground Storage Tank Inspection and Permitting Program

The Santa Cruz EHS is the lead agency responsible for the implementing and enforcing the County's Underground Tanks Ordinance for the unincorporated areas of the County.

### Wastewater Treatment

The Santa Cruz County Public Works Department is responsible for maintenance of five sanitation facilities and sewer services. Monitoring the quality of sewage discharged into the Santa Cruz City treatment plant and enforcing pretreatment programs is the responsibility of the County Sanitation District. Potential hazardous waste dischargers are surveyed to determine the products and byproducts of the industry and the physical and chemical processes employed by the industry. Technical assistance is provided with regard to recommending programs to

eliminate or pretreat any discharge of hazardous materials. These operations are monitored by the Central Coast Regional Water Quality Control Board.

#### Inspection/Monitoring of Solid Waste Disposal Sites

Landfills are inspected by the EHS on a monthly basis for signs of leachate, adequacy of leachate control and evidence of hazardous materials entering the site. The California Waste Management Board, the Regional Water Quality Board and the EPA also conduct monitoring actions at the disposal sites, either to assist or evaluate the effectiveness of a lower level enforcement agency.

#### Inspection/monitoring of Pesticide Application

The Santa Cruz County Agricultural Commission has the responsibility of monitoring and enforcement of regulations for both restricted and non-restricted pesticides.

#### City Programs

Several cities within the AMBAG region are responsible for programs which address inspection, technical assistance or enforcement within their jurisdictions. These are discussed below:

#### Hazardous Material Inventory and Disclosure

AB 2185/2187 legislation is implemented and enforced by the Watsonville Fire Department, the Scotts Valley Public Works Department and the Santa Cruz County Environmental Health Service. The two cities exercise control over their jurisdictions. (Provisions of AB 2185/2187 are discussed under "Emergency Response Programs Required by State Legislation" in Section 8.4.)

#### Underground Storage Tank Inspection and Permitting Program

State underground tank legislation (Sher Bill, AB 1362) is enforced in Scotts Valley and Watsonville by the Public Works Department and Fire Department, respectively. The Scotts Valley program is operated under agreement with the County of Santa Cruz, pending a redelegation of authority by the Santa Cruz County Board of Supervisors. Inspections of underground tanks are performed annually to ensure compliance with State regulations.

The City of Watsonville has enacted an Underground Tank Ordinance which regulates active and abandoned underground storage tanks and establishes responsibilities and enforcement powers regarding monitoring, inspection, permitting and closure procedures for underground storage tanks.



The City of Scotts Valley's Hazardous Materials Ordinance regulates hazardous material storage, handling, permitting and inspection. Permits or approval are required for storing, handling, and disposing of all hazardous materials, and installing, constructing, repairing, modifying, closing and removing underground and above ground storage facilities. Permittees are responsible for self-monitoring, testing and inspecting to demonstrate permit compliance.

#### Wastewater Treatment

Enforcement of Pretreatment regulations is accomplished by the Watsonville Public Works Department through regulation of discharge to the wastewater collection system and pretreatment processes. Currently, Watsonville requires that hazardous waste not be discharged to wastewater but instead be disposed of at an acceptable site. Pretreatment processes are permitted if the waste is a generated product (not byproduct) of an industrial process, and it is impractical to separate the waste from water. Substitution of materials and processes are strongly promoted. Technical assistance is provided on a limited basis. Inspections are conducted on a regular basis by one Public Works staff person.

#### Adequacy of Existing Programs

State legislation and county and city ordinances appear to be adequate to allow the current inspection and enforcement programs to operate effectively.

Establishment or continued maintenance of a centralized data base would serve to ensure compliance and provide a means for setting program goals and measuring program success. Such a data base would also provide information necessary for an effective technical assistance program and would help determine on-site and off-site waste management needs.

Technical assistance programs should be developed to encourage waste minimization. Programs which provide technical assistance indirectly, as through the provision of lists of engineers and consultants who specialize in waste reduction, do not require in-house technical expertise and could be implemented easily.

### 8.3 Organizational Responsibilities

Existing hazardous materials and hazardous waste management programs in the counties and cities are implemented by different agencies at different levels of government. Programs have been examined for such problems as fragmented or duplicated data systems, inefficient use of resources, etc. This section highlights these problems and issues concerning existing programs in the counties and cities with recommendations for improvement as they appear in each of the county plans.

#### Santa Cruz County Programs

Santa Cruz County recently implemented the Santa Cruz County Comprehensive Hazardous Materials Management Plan. The foundation of this Plan is a comprehensive hazardous materials and wastes inspection and monitoring program. It is expected that further coordination and development of the Hazardous Materials Management Plan with other existing programs combined with better definition of new State and federal program requirements will significantly improve the effectiveness of hazardous waste management in Santa Cruz County.

#### Comprehensive Inspection and Monitoring Program

Santa Cruz has a Memorandum of Understanding pending with the State Department of Health Services (DHS). Completion of this process will allow for the coordination of generator permit inspection and monitoring programs operated by the County. Watsonville and Scotts Valley do not currently have generator permitting powers. To facilitate a coordinated and comprehensive inspection and monitoring program, the Santa Cruz County Draft Hazardous Waste Management Plan recommends that:

- o Santa Cruz County consider issuance of one permit covering hazardous materials, acutely hazardous materials and hazardous waste, and develop appropriate fee collection ordinances.
- o Santa Cruz County coordinate inspections and permitting with existing ordinances.
- o Santa Cruz County continue to track State efforts to determine minimum requirements for incorporating SARA Title III into local programs with minimal disruption.
- o Scotts Valley resolve hazardous materials delegation issue and further implement hazardous materials programs before seeking hazardous waste generator inspection and permitting authority.
- o Scotts Valley systematically review major cases of noncompliance with storage provisions and prescribe penalty, with increased penalties after defined date(s).



- o Watsonville review the advantages and disadvantages of entering into an Memorandum of Understanding (MOU) with the State DHS, and if beneficial to the City, begin negotiating MOU.

#### County and City Plan and Program Coordination

County and city plan and program coordination is a critical component of the Santa Cruz County Hazardous Waste Management Plan. Watsonville and Scotts Valley have developed effective programs, and these programs should not be disassembled for the sake of centralization. However, to ensure effective County, regional, and State management, information on hazardous materials and waste in Santa Cruz County should be centralized, and needs and resources should be managed at a County level. Specific recommendations for the coordination of County and city management of new programs, including comprehensive inspection and monitoring programs and the Data Information System, include:

- o Continue efforts of the Hazardous Materials Advisory Commission to serve as the advisory board for overall County and regional Hazardous Waste Management Plan coordination. This committee should continue, and should represent the various parties involved in hazardous waste management issues, including representatives from Watsonville, Scotts Valley, Santa Cruz, Capitola and Santa Cruz County.
- o Organization of the Data Information System.
- o Coordination of the Comprehensive Inspection and Monitoring Programs through a standing program manager committee.

#### Hazardous Materials and Hazardous Waste Data Information System

A coordinated data management program has not yet been established in Santa Cruz County. The development of an integrated system for the collection, storage and retrieval, and update of hazardous materials and hazardous waste data will greatly expand the capability of Santa Cruz County to manage hazardous materials and waste. This system should be both an inventory tool and a management tool. A computerized data management system can be tailored to the specific needs of Santa Cruz County. Management of the Data Information System should be centralized in one location. Steps needed to implement this system are outlined in the Santa Cruz Hazardous Waste Management Plan and include:

- o Establish central location and operation for Data Information System. The County Information Center is the

recommended location for this system.

- o Reorganize existing information system elements so that they serve as management, as well as and enforcement tool.
- o Develop procedures for ongoing collection of data and for coordination of data collection efforts among County and city agencies. There should be a staff person within each jurisdiction who has responsibility for managing data entry, retrieval and analysis form this system.
- o Expand upon the system so that it includes information on hazardous material and hazardous waste used and generated by small businesses, public institutions, and the agricultural and household programs.
- o Establish within the information system the means to track cross-media (land, water, sewage, air) transfer of wastes, as possible.
- o Provide for regular review and update of information system.
- o Coordinate County Data Information System with Scotts Valley and Watsonville.
- o Develop means for County Data Information System to interface with regional and State information systems.
- o Coordinate County Data Information System with industry (large quantity generators and manifested wastes).

#### Monterey County Programs

The Monterey County Environmental Health Division's Toxic Materials Control Branch is responsible for administering and managing hazardous material programs and enforcing the Hazardous Waste Generator Program. The Environmental Health Division is also responsible for maintaining a computerized registration of hazardous materials.

#### Ongoing Data Collection and Analysis

The Monterey County computerized data base system currently contains only AB 2185/2187 data. To increase the effectiveness of the data base system as a tool for the management of hazardous wastes the Monterey County Hazardous Waste Management Plan makes the following recommendations:

- o Expand the County's existing data base. The data base is used to track the hazardous material inventory information obtained from businesses under AB 2185/2187. This system is to be expanded in the near future to include information on underground tank releases, hazardous

material incidents, contaminated sites and complaints. Other information which should be included in the data base include:

- o Hazardous waste management facilities (facility type, quantity of hazardous waste generated, waste management techniques, waste reduction plans, hazardous and hazardous material storage, information on leaking tanks, and compliance/inspection history).
- o Wastewater discharge information available from the sanitation districts.
- o NPDES discharge information available from the Regional Water Quality Control Board and EPA.
- o Air discharge information available from the Monterey Bay Unified Air Pollution Control District.
- o SARA Title III data available from the local emergency response commission.

This information will be compiled on a regular basis and should be easily accessible by the public.

#### Household Hazardous Waste and Small Quantity Generator Programs

Programs aimed at serving households and small quantity generators are likely to be implemented by a variety of agencies at different levels of government and by the private sector. To ensure consistent guidance on the proper disposal of small quantities of hazardous waste, the Monterey County Hazardous Waste Management Plan recommends that:

- o Consideration should be given to requesting that the Association of Monterey Bay Area Governments (AMBAG) develop a directory to provide consistent guidance on the proper disposal of small quantities of hazardous waste. Input for such a directory can be solicited from water quality, sewage treatment, solid waste, environmental health, and air quality agencies, as well as public interest groups. The directory would be designed for use by local government staff, health professionals and public interest groups.

## 8.4 Emergency Response

Emergency response to hazardous waste incidents within the AMBAG region involves the implementation of Federal, State and local programs. Most of these programs involve the private sector to some extent.

### Federal Legislation

#### SARA Title III

Federal legislation, Title III of 1986 SARA (also known as the Emergency Planning and Community Right to Know Act of 1986 [EPCRA]), established a nationwide emergency planning program for responding to potential releases of toxic chemicals. It gave EPA, states and local governments the authority to gather information from facilities in order to aid emergency response efforts and to inform the public of the presence of chemicals and chemical releases in its communities. California businesses must comply with requirements of existing California community right-to-know/emergency response laws in addition to the requirements of Title III.

#### OSHA

The OSHA Hazard Communication rule requires facilities to prepare Material Safety Data Sheets for hazardous chemicals. This information must be provided if requested by the state, the local emergency response commission, or the public.

#### EPA

The Environmental Protection Agency (EPA) requires that certain industries annually submit Toxic Chemical Release Forms if they manufacture, process, or use specific toxic chemicals in excess of certain levels. Information regarding quantity, usage, treatment and disposal methods, and quantities entering each environmental medium per year as a result of normal business operations will be compiled by EPA to create a national inventory of toxic chemical emissions.

### Programs Required by State Legislation

#### CEPRC

The governor of California appointed the California Chemical Emergency Planning and Response Commission in March, 1987. The Commission, in turn, created local emergency planning commissions. The local commission having jurisdiction over the AMBAG region is located in Pleasant Hill (Region II). The commission must prepare a regional community emergency response plan by October, 1988. The State Commission must be notified by all facilities at which an "extremely hazardous substance" is



present in an amount greater than the appropriate "threshold planning quantity". These facilities are also required to designate an emergency response coordinator. Releases of these "extremely hazardous substances" must be reported to the State Commission and the local emergency response commission for Region II.

The California Health and Safety Code contains several emergency response and accident prevention laws. Administering agencies have the right to implement more stringent requirements.

#### State Bills AB 2185 and AB 2187

AB 2185 and AB 2187 require local agencies and industries to prepare and carry out emergency response plans for accidental releases of hazardous materials. These plans provide procedures for emergency rescue personnel, training, and pre-emergency planning. The Monterey County Health Department Division of Environmental Health (DEH), the Santa Cruz County Environmental Health Services (EHS), the City of Watsonville Fire Department and the City of Scotts Valley Public Works Department are designated by the State as administering agencies within the AMBAG region.

In addition to these area emergency response plans, businesses handling over a specified amount of hazardous material must file "business plans". These individual plans include an emergency response plan, an inventory of hazardous materials and a training plan, and must be filed with the administering agencies, (Monterey County DEH Santa Cruz County EHS, Watsonville Fire Department and Scotts Valley Public Works Department). In Monterey County hazardous materials inventory data are computerized and made available to County Communications (911) and the various Monterey County fire departments for emergency response purposes.

These laws also require that any releases or threatened releases of hazardous material (except transportation related spills) be immediately reported to the administering agency (DEH, EHS, Watsonville F.D. or Scotts Valley D.P.W.) and the Office of Emergency Services.

#### State Bills AB 3777 and AB 1059

AB 3777 and AB 1059 require industries to assess the risk posed by potential chemical releases from their facilities and to take steps to reduce these risks through the prevention of hazardous materials accidents. Owners/operators of businesses which handle specified quantities of "acutely hazardous materials" must submit registration forms to the administering agency. Any business which poses a potential risk may be required by the administering agency to prepare and submit a Risk Management and Prevention Plan (RMPP) which includes an auditing and inspection program to confirm that the RMPP is effectively carried out.



### Regional Emergency Repsonse Programs

The Regional Water Quality Control Board (RWQCB) responds on a case-by-case basis to County requests for assistance on hazardous material/hazardous waste incidents. The RWQCB works with county and city agencies to identify clean-up tasks and lead agencies for each task. The RWQCB must issue a clean-up and abatement order to begin site clean-up; it must also adopt waste discharge requirements for the contaminated site.

### Monterey County Emergency Response Programs

In addition to the County's role as administering agency for the State legislation discussed previously, the County's Health Department's Division of Environmental Health coordinates an Emergency Response Program which provides technical oversight at all emergency situations occurring in the County, including hazardous material incidents, fires and poisonings. This program is coordinated with the county Office of Emergency Services (911). The Environmental Health Division has submitted an "Area Plan" for emergency response to the release of hazardous materials for review by the State Office of Emergency Services.

The Monterey County Office of Emergency Services has prepared the Monterey County Disaster Response Plan, June, 1986, that in part covers the broad spectrum of incidents resulting from hazardous materials incidents.

### Santa Cruz County Emergency Response Programs

In addition to its role as administering agency for State emergency response legislation, Santa Cruz County has responsibility for all emergency response in the unincorporated areas of the county. Through Memorandums of Understanding (MOUs) with Santa Cruz and Capitola, the County also has responsibility for these cities' hazardous materials and emergency response programs.

The County Environmental Health Services is responsible for enforcing clean-up of illegal spills and also responding to reports of illegal dumping of hazardous materials. The department has 24-hour emergency response capability.

The Department of Emergency Services is responsible for planning and coordination of emergency response, including hazardous material incident response. An "Emergency Response Area Plan" has been prepared in accordance with AB 2185/2187 and is awaiting State approval. The Emergency Dispatch Center coordinates mutual aid response for the County, Santa Cruz and Capitola.

### City Emergency Response Programs

The Salinas Fire Department will be providing emergency response for all of Monterey County. The Salinas Fire Department has an emergency response van staffed and equipped to respond to hazardous materials emergencies. The van will be put into operation in Spring, 1988, in accord with contract negotiations between the City of Salinas and State DHS. The van was provided to the Salinas Fire Department by the State Department of Health Services (DHS) at Monterey County's request.

Within Santa Cruz County communication and coordination between the lead agencies in the County, Watsonville and Scotts Valley is largely of an informal nature. Countywide emergency response is coordinated through mutual aid agreements. No formal interagency emergency response committee exists.

The Watsonville Fire Department has administrative status over emergency response area plan regulations and is responsible for accidental and illegal hazardous material incident response within its jurisdiction. Beginning in summer of 1988 the Watsonville Fire Department will operate a hazardous material response vehicle. This vehicle will be made available for emergencies in other parts of Santa Cruz County through mutual aid agreements.

The City of Scotts Valley Department of Public Works is responsible for the coordination of hazardous materials emergency response with other agencies within and outside of the city. The Department has the capability to identify unknown materials and provide emergency information on hazardous materials. City emergency response is coordinated with Watsonville and the County. The Scotts Valley Fire Department is commonly the first responder to hazardous material spills and fires as are the Police Department and industry emergency teams. The Fire Department consults with the Department of Public Works whenever hazardous materials are involved in a fire or emergency spill.

### Private Sector Emergency Response Programs

The private sector is involved with emergency response through the preparation of individual emergency response plans which must be submitted to the administering agency as specified by AB 2185 and AB 2187. Industries which handle certain amounts of hazardous materials are required by the California Emergency Response Commission (CEPRC) to designate an emergency response coordinator. Businesses which handle "acutely hazardous materials" may be required to prepare Risk Management and Prevention Plans in accordance with AB 3777 and AB 1059.

### Adequacy of Existing Programs

Legislation governing emergency response appears to be adequate. Existing emergency response programs will be enhanced upon implementation of the State approved "Emergency Response Area Plans" prepared by the Monterey County Division of Environmental Health and the Santa Cruz County Department of Emergency Services.

Existing programs would benefit from increased coordination between the agencies responsible for emergency response and private sector businesses involved in the use of hazardous materials. In addition, businesses should be notified of their responsibilities under federal and state legislation.

Education programs which focus on safety and the prevention of hazardous material incidents should also be considered.

Specialized emergency response vehicles will soon be in operation in both counties. Primary consideration should be given to the provision of training for the emergency response teams to ensure that they have adequate knowledge to assess the hazard associated with emergency incidents.



## 8.5 Contaminated Sites

### Identified Sites

The AMBAG region contains 42 sites identified by the Environmental Protection Agency (EPA), the State Department of Health Services (DHS), the Regional Water Quality Control Board (RWQCB), the Santa Cruz County Environmental Health Services (SCCEHS), and the Monterey County Environmental Health Department (MCEHD) as either contaminated or potentially contaminated. These sites contain hazardous wastes and require management in accordance with federal, state, and local regulations.

EPA Identified Sites: EPA has identified 42 areas within the AMBAG region as potential uncontrolled hazardous waste sites in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). These sites are listed in Table 8-1.

NPL-Superfund Sites: Two of the 42 sites have been identified by the EPA under CERCLA as National Priorities List (NPL) sites: the Watkins-Johnson site in Scotts Valley and the Firestone Tire and Rubber site in Salinas.

California Superfund Sites: The California Department of Health Services (DHS) manages the States's Hazardous Substances Cleanup Bond Expenditure Plan, also referred to as the State Superfund. The Expenditure Plan lists the principal known contaminated sites and identifies those sites which require public funds for cleanup. The El Pueblo Road site in Scotts Valley, the Berman Steel site in Salinas, the Fort Ord site in Marina, and the Verticare Helicopter site in Salinas are currently on this list. These sites are also listed in Table 8-1.

County Sites: Santa Cruz County Environmental Health Services (EHS) and Monterey County Environmental Health Department (EHD) are also involved in the identification and oversight of cleanup of minor contaminated sites within their counties. The Santa Cruz County Sanitary Landfill in Ben Lomond is one such site.

### Underground Storage Tanks

Underground storage tanks are regulated under the California Administrative Code, the California Health and Safety Code, and by the Regional Water Quality Control Board. State, county and several local regulations require that leaking tanks be removed and contaminated soils either treated or properly disposed.

The number of sites associated with leaking underground tanks within the AMBAG region is approximated to be 75 - 48 in Santa Cruz County and 27 in Monterey County. These sites are listed in Tables 8-2 and 8-3.

Cleanup procedures vary from one jurisdiction to another. However, State guidelines are followed and/or incorporated into each local program. In many instances, leaking tank and contaminated sites are referred to the Regional Water Quality Control Board (RWQCB) if there is the potential for surface or groundwater contamination. Once this has been determined, the RWQCB conducts investigation then issues cleanup orders. A list of additional RWQCB cleanup sites is presented in Table 8-4. Cleanup of ground and/or surface water is underway at these sites.

### Contaminated Sites Disclosure Information

The Santa Cruz and Monterey County Hazardous Waste Management Plans describe each of the contaminated sites within their jurisdictions in detail. The descriptions include the site location, the specific nature of the contaminants, a brief site history, and the current status of the site.

This disclosure information is intended to:

- Help buyers and sellers of contaminated sites and adjacent property meet real estate disclosure laws.
- Establish locally implemented buffer zones around such sites.
- Identify sites that may be designated as border zones subject to land-use restrictions by DHS or local governments.
- Develop environmental assessments required when proposing new uses for contaminated sites or nearby properties.
- Identify and/or verify locally discovered potential contaminated sites.

### Land Use Designation and Rezoning Requirements

California Health and Safety Code: California has a statutory and administrative procedure under which the Department of Health Services (DHS) has the authority to impose land use restrictions on "hazardous waste property" and "border zone property".

The use of property designated as either a hazardous waste property (land on which hazardous waste has been deposited and which creates a significant existing or potential hazard to present or future public health or safety) or a border zone property (property located within 2,000 feet of a "hazardous waste property") is restricted unless a variance is obtained from DHS. Properties that are designated as hazardous waste properties are prohibited from any new use, other than



modification or expansion of an industrial or manufacturing facility. In addition, a hazardous waste property may be subdivided only for separating nonhazardous from hazardous portions. A border zone designation results in prohibiting a variety of uses including residential, hospitals, schools, or day care centers.

Owners of properties designated as hazardous waste properties or border zone properties by the DHS must also record the appropriate land use restrictions in the title. In addition, all purchase, lease, or rental agreements must be accompanied by a written statement describing the hazardous waste property or border zone property designation.

A hazardous waste designation determination may be requested by the property owner or the city or county if it has probable cause to believe that land within its jurisdiction is a hazardous waste property or a border zone property.

SB 245: A recently enacted California law (SB 245) requires that an owner of nonresidential real property who "knows or has reasonable cause to believe" that a release of hazardous substances has occurred on or beneath the property must notify any buyer of this fact. The bill also requires lessees or renters to notify the property owner if they discover the presence or suspected presence of hazardous substances. Civil penalties may be assessed if these requirements are not met.



TABLE 8-4

## EPA (CERCLA) AND DHS IDENTIFIED CONTAMINATED SITES

Site	Location	EPA Status
<u>Santa Cruz County</u>		
El Pueblo Road Site	Scotts Valley	
1. Assembly Services	34b Janis Way, SV	FC
2. Carbonero Trailer Pk	4556 Scotts Valley Dr., SV	FC
3. Instrument Graphics	54A El Pueblo Rd., SV	FC
4. Kevex X-Ray Tubes	320 El Pueblo Rd., SV	FC
5. Pettibone Signs	El Pueblo area, SV	FC
6. Rank Electronics	4658 Scotts Valley Dr., SV	FC
7. Scarborough Lumber	20 El Pueblo Rd., SV	FC
8. Scotts Vly Circuits	66 El Pueblo Rd., SV	FC
9. Seagate Technology	920 Disc Dr., SV	A
10. Si-Fab Corporation	27 Janis Way, SV	A
11. Tapemation Machine	21 El Pueblo Rd., SV	FC
12. Tate Western	340 El Pueblo Rd., SV	FC
13. Technical Plastics	19 Janis Way, SV	A
(Same as Si-Fab/Seagate)		
Berman Steel	6th/ Walker St., Wtsnville	N
Brown Bulb Ranch	41st Ave., Capitola	P
Ferranti Interdesign	1500 Greenhills Rd., SV	FC
Granite Construction	1280 Shaffer Road, SCruz	U
Jamie Hood Speed and Machine	163 Estrella Rd., SV	FC
J & E Machine	5998 Butler Lane, SV	FC
Kaiser Pit	Kaiser Pit, SV	FC
Kings Cleaners	222 Mt. Hermon Rd., SV	FC
Lone Star Industries	Highway 1, Davenport	N
McMillan Residence	503B Pine St., Capitola	U
Pacific Gas & Electric	River/Bulkhead St., SCruz	N
Pacific Gas & Electric	Walker/Front St., Wtsnville	A
Pacific Gas & Electric	Main St. near 5th, Wtsnville	N
Santa Cruz Landfill	Ben Lomond	A
Santa Cruz Lumber	5043 Graham Hill Rd., Felton	P
Santa Cruz Public Works	198 Holohan Rd., Wtsnville	N
Scotts Valley Intermediate School	8 Bean Creek Rd., SV	FC
Shaw Frozen Foods	345 Harvest Dr., Wtsnville	U
Skypark Airport	Scotts Valley	N
Tobey's Rasp Service	2203 Misssion St., SCruz	P
Valley Gardens Golf Course	Scotts Valley	FC
Watkins Johnson	440 Kings Village Rd., SV	A
Watsonville Landfill	736 San Andreas Rd., Wtsnville	U
Westcoast Circuits	1080 West Beach St., Wtsnville	A
William Wrigley Co.	2901 Mission St., SCruz	N

## Status:

A = Active

FC = Further Consideration

P = Pending

DS = Discovery

N = No further action necessary

U = Unknown

TABLE 8-4 (Cont'd)

## EPA AND DHS IDENTIFIED CONTAMINATED SITES

<u>Site</u>	<u>Location</u>	<u>EPA Status</u>
<u>Monterey County</u>		
Firestone Tire & Rubber	340 El Camino Real, Salinas	
Berman Steel	Hwy 101/Spence Rd., Salinas	
Fort Ord	Fort Ord, Marina	
Verticare Helicopter	27250 Encinal Rd., Salinas	

TABLE 8-5

SITES IN MONTEREY COUNTY  
ASSOCIATED WITH LEAKING UNDERGROUND TANKS

Site	Location	Contaminant	Status
A-1 Ambulance	Salinas	Gasoline	CIP
ARCO Service Station	Monterey	Gasoline	IIP
Avis Service Center	Monterey	Gasoline	CIP
Beacon Service Station	Monterey	Gasoline	CEP
Boggiatto Packing Co.	Castroville	Gasoline	CIP
Champion International	Salinas	Diesel	CIP
Chevron Service Station	Salinas	Gasoline	CEP
Chevron USA	King City	Gasoline	IIP
Exxon Service Station	Prunedale	Gasoline	CIP
Formerly Dave's Garage	Castroville	Gasoline	IIP
Martella Property	Salinas	Gasoline	CEP
Mobil Oil Corp.	King City	Gasoline	IIP
Mobil Service Station	Salinas	Gasoline	IIP
Mobil Service Station	Pacific Grove	Gasoline	IIP
Mobil Service Station	Monterey	Gasoline	MIP
Pacific Gas & Electric	Salinas	Gasoline	IIP
Pete's Shell	Gonzales	Gasoline	IIP
Point Lobos State Res.	Carmel	Gasoline	CEP
Salinas Disposal	Salinas	Gasoline	IIP
Seven-up Bottling Co.	Salinas	Gasoline	CIP
Shell Station (E. Alisal)	Salinas	Gasoline	CIP
Shell Station (Fairview)	Salinas	Gasoline	CIP
Texaco Producing Inc.	San Ardo	Gasoline	IIP
Abandoned Warehouse	Sand City	Gasoline	NA
Affiliated Beverage Co.	Salinas	Gasoline	IIP
Brian Osborne	Salinas	Gasoline	NA
Gil's Texaco	Gonzales	Gasoline	IIP
Griffin Street Cardlock	Salinas	Gasoline	CEP
Heningsen Construction	Salinas	Waste Oil	IIP
Mitchell Silliman	Chualar	Gasoline	CIP
Presidio - Monterey	Presidio	Diesel	CIP
Uni-Kool	Salinas	Gasoline	IIP
Wicks Lumber	Salinas	Gasoline	IIP
Bassi Ranch	Gonzales	Gasoline	NA
Chevron Service Station	Salinas	Waste Oil	IIP

AIR	- Additional Investigation Needed
CC	- Cleanup Completed
CIP	- Cleanup in Progress
CEP	- Cleanup Evaluation in Progress
IIP	- Investigation in Progress
MIP	- Monitoring in Progress
RWQCB-CO	- Regional Water Quality Control Board Cleanup Order
NA	- No Action Taken
UNK	- Unknown





**SITES IN SANTA CRUZ COUNTY  
ASSOCIATED WITH LEAKING UNDERGROUND TANKS**

Site	Location	Contaminant	Status
Former Chevron Gas Station	Santa Cruz	Gasoline	RWQCB-CO
Shell Oil-Ocean Avenue	Santa Cruz	Gasoline	RWQCB-CO
Adco Electric	Santa Cruz	Gasoline	AIR
Santa Cruz Ambulance	Santa Cruz	Gasoline	AIR
Las Animas Concrete	Santa Cruz	Gasoline	AIR
George Wilson Co.	Santa Cruz	Gasoline	AIR
Clayton Vapor Cleaners	Santa Cruz	Solvents	RIN
Old Arco Station	Santa Cruz	Gasoline	AIR
Mission Linen Supply	Santa Cruz	Gasoline	AIR
Former Emma's Car Wash	Santa Cruz	Diesel	RWQCB-CO
Fast Gas	Santa Cruz	Gasoline	RWQCB-CO
Santa Cruz City Fire Station #2	Santa Cruz	Gasoline	Unk
Former Lewis Exxon	Santa Cruz	Gasoline/Waste Oil	Unk
Addendum to Santa Cruz City Sites	Santa Cruz	Gasoline	RWQCB-CO
Reese Construction	Santa Cruz	Gasoline	Unk
Toyota of Santa Cruz	Santa Cruz	Gasoline/Waste Oil	Unk
Bay Avenue Self Service	Capitola	Gasoline	RWQCB-CO
Aptos Shell	Aptos	Waste Oil	IIP
Dairy Mart	Ben Lomond	Gasoline	IIP
Buchwald Cold Storage	Watsonville	Gasoline	IIP
Esplanade Pump Station	Capitola	Gasoline	MIP
Capitola Pump Station	Capitola	Gasoline	RWQCB-CO
Skylark Ranch	Pescadero	Gasoline	AIR
Ponza Brothers	Soquel	Gasoline	AIR
Mobile Service Station	Capitola	Gasoline	AIR
Lockheed Missiles & Space	Santa Cruz	Gasoline	AIR

TABLE 8-6 (Cont'd)

**SITES IN SANTA CRUZ COUNTY  
ASSOCIATED WITH LEAKING UNDERGROUND TANKS  
(Continued)**

Site	Location	Contaminant	Status
Pacific Gas & Electric Co.	Santa Cruz	Gasoline/Waste Oil	AIR
Old Arco Station	Soquel	Gasoline	AIR
Firestone Tires	Santa Cruz	Gasoline	CC
Big Creek Lumber	Davenport	Unk	CC
M.O. Shugart	Freedom	Gasoline	IIP
Beacon Station	Santa Cruz	Gasoline	IIP
Tom Rosewall & Sons	Watsonville	Unk	Unk
960 West Beach	Watsonville	Unk	CIP
Statewide Properties	Watsonville	Unk	CIP
Pajaro Valley Bakery	Watsonville	Unk	CC
Farmers Old Cold Storage	Watsonville	Unk	CIP
Moyer Chemical	Watsonville	Unk	CC
Regal Station	Watsonville	Gasoline	CIP
Phillips Driscopipe	Watsonville	Unk	CC
United Flight Service	Watsonville	Unk	CIP
Natureripe Berry	Watsonville	Unk	MIP
Emma's Car Wash	Watsonville	Gasoline	CC
Western Farm Serv	Watsonville	Unk	CIP
Pajaro Valley Unified School District	Watsonville	Unk	CIP
Apple Growers	Watsonville	Unk	CIP

AIR	- Additional Investigation Needed		
CC	- Cleanup Completed		
CIP	- Cleanup in Progress		
IIP	- Investigation in Progress	Unk	- Unknown
MIP	- Monitoring in Progress		
RWQCP-CO	- Regional Water Quality Control Board - Cleanup Order		

TABLE 8-7

## REGIONAL WATER QUALITY CONTROL BOARD CLEANUP SITES

Site	Location	Contaminant	Status
<u>Santa Cruz County</u>			
Chevron Gas Station	Santa Cruz	Gasoline	CO
Shell Oil - Ocean Ave	Santa Cruz	Gasoline	CO
Emma's Car Wash	Santa Cruz	Diesel	CO
Fast Gas	Santa Cruz	Gasoline	CO
Addendum to Santa Cruz City Sites	Santa Cruz	Gasoline	CO
Bay Avenue Self Service	Capitola	Gasoline	CO
Capitola Pump Station	Capitola	Gasoline	CO
<u>Monterey County</u>			
A & S Metals	Castroville	Metal/Solvent	CIP
Ashworth Brothers, Inc.	Salinas	Acid/Solvent	CIP
Crazy Horse Solid Waste	Salinas	Solvent	CIP
Firestone Tire & Rubber	Salinas	Solvent	CIP
Monterey Peninsula Garbage & Refuse	District	Solvent	MIP
P. Tarp & J. Neubert	Salinas	Pesticide	CIP
Puregro	Salinas	Pesticide	CIP
Quantics	Salinas	Solvent	CIP
Soilserv	King City	Pesticide	CIP
U.S. Army	Fort Ord	Oil/Solvent	CIP
U.S. Army	Fort Ord	HM/Solvent	CIP
Vapor Sudden Service Laundry	Monterey	Solvent	CIP
CIP                    - Cleanup in Progress MIP                   - Monitoring in Progress CO                    - Cleanup Order (Status Unknown)			





## **8.6 Small Quantity Generators and Household Hazardous Waste Programs**

### Small Quantity Generators

By EPA definition a small quantity generator (SQG) includes businesses, households or individuals that generate between 100 kg (about 0.1 ton) and 1000 kg (about 1 ton) of hazardous waste per month. The types of businesses which may be considered small quantity generators appear to be spread across the whole industrial spectrum.

Many small quantity generators are small businesses which unfortunately lack the resources, technical expertise, or staffing to effectively manage their hazardous waste. Consequently, the primary objectives of any program aimed at the small quantity generator are to reduce illegal disposal practices and to educate SQGs on waste reduction, recycling, and treatment options and methods to comply with existing hazardous waste regulations.

### Federal and State Programs

The Environmental Protection Agency (EPA) and state agencies have published handbooks that outline regulatory requirements, categorize hazardous wastes, provide information regarding waste management firms, describe disposal options, and list emergency telephone numbers. EPA has also prepared a video tape, established a Small Business Ombudsman with a toll free hotline, and developed a financing guarantee program of the Small Business Administration.

The State Department of Health Services is responsible for the permitting hazardous waste generators, including small quantity generators. To ensure efficient use of the limited resources of the State and county, DHS has Memorandums of Understanding (MOU) with county agencies. Monterey County has an MOU with DHS regarding enforcement of the State hazardous waste minimum standards and regulations. Santa Cruz County Health Services Agency/Environmental Health Services has a similar MOU pending with the DHS.

### Monterey County Programs

The enforcement of regulations related to small quantity generators (SQGs) has traditionally been difficult and costly to implement, primarily due to the large number of businesses affected. The following are programs or policies covered by the County's MOU with the State which are particularly relevant to the management of SQG wastes:

DHS and Monterey County have established a program that enables both agencies to conduct surveillance activities

and enforce and investigate unauthorized disposal of hazardous wastes.

DHS provides periodic training for Monterey County hazardous waste staff in the technical, administrative, and legal applications of hazardous waste statutes and regulations.

Monterey County's Health Officer reports nonregistered or nonpermitted transporters, facilities, or sites directly to the State for corrective action.

Monterey County conducts investigations and inspections of hazardous waste generator facilities and transporter terminals using the States standards and check sheets. The County provides the State with inspections reports and Compliance Monitoring Enforcement Logs for each inspection performed.

Monterey County assures that all Hazardous Waste Generators have obtained a generator number from the EPA.

Monterey County has several existing County programs which address the management of hazardous waste generated by SQGs.

Programs have been established at the Marina Sanitary Landfill, the Crazy Horse Sanitary Landfill and the Salinas Transfer Station to check waste loads to discover and discourage attempts by SQGs to dispose of hazardous wastes at solid waste landfills.

Small quantity generators are subject to provisions of AB 2185 and AB 3777 as discussed in Section 8.4. The Monterey County Department of Environmental Health (DEH) and other designated administering agencies enforce these bills. AB 2185 requires local industries, including small businesses, to prepare and carry out emergency response plans for accidental releases of hazardous materials. The intent of AB 3777 is to ensure that industries assess the risk posed by potential chemical releases from their facilities and take steps to reduce these risks.

Businesses that handle regulatable quantities of hazardous materials are required to be registered with the county DEH. These businesses are not necessarily generators of hazardous wastes, but may be.

The County periodically notifies small businesses of the need to register as a hazardous waste generator and, if applicable, submit a Business Response Plan in accordance with AB 2185. The County distributed a fact sheet aimed at small quantity generators regarding hazardous waste management regulations and practices. In addition, the Department of Environmental Health responds to inquiries

regarding the proper disposal of small amounts of hazardous wastes.

Workshops outlining the requirements for generators of small quantity of hazardous wastes have been sponsored by Monterey County.

Schools are often generators of small quantities of hazardous waste. The DEH encourages schools to remove hazardous materials from their premises.

### Santa Cruz County Programs

Small quantity generators within Santa Cruz County are affected by several programs. These programs are summarized below:

The Santa Cruz County Environmental Health Services (EHS) is the designated agency responsible for enforcing AB 2185 and AB 3777 in the unincorporated areas of Santa Cruz County and in the cities of Capitola and Santa Cruz. How these bills affect small quantity generators has been discussed above and in Section 8.4.

The Santa Cruz Hazardous Materials Ordinance regulates County hazardous materials and hazardous material management plan requirements, storage, disclosure, permitting, inspections, and enforcement powers. Small quantity generators must complete short form Hazardous Material Management Plans.

The Agricultural Extension Office of the University of California is responsible for educational and research activities in agriculture, production and integrated pest management. Voluntary programs aimed at growers, farm laborers and non-certified applicators, and other potential SQGs, have successfully reduced the need for pesticide use on certain crops.

The County Agricultural Commission is responsible for enforcing State pesticide requirements. The Commission issues use permits and conducts surveillance of all pesticide users. Inspections of both restricted and non-restricted pesticide applicators are conducted on a regular basis. The Agricultural Commission also conducts a mandatory triple rinse program to reduce or eliminate the accumulation of hazardous wastes resulting from pesticide application. After triple rinsing the pesticide containers are not considered a hazardous waste and may be sent to a Class II disposal facility.

Those pesticides that have been taken off the list of registered pesticides must be discarded at a Class I disposal site. Farmers may have quantities of these pesticides in the range of 1 -10 gallons. Unfortunately,



the cost of transportation and disposal prevents farmers from properly disposing of these unusable pesticides.

### Local Programs

The cities of Scotts Valley and Watsonville conduct programs affecting small quantity generators through their responsibilities as administering agencies for the enforcement of AB 2185 and AB 3777. The provisions of these bills were discussed previously.

Small quantity generators in Scotts Valley must comply with the City of Scotts Valley's Hazardous Materials Ordinance which regulates storage, handling, permitting and inspection.

### Household Hazardous Wastes

Typical household hazardous wastes include waste oil, insecticides, solvents, paint products, oven cleaners, furniture polish, disinfectants, photographic chemicals, medications and drugs, and generally, any products labeled poison, corrosive, flammable, or toxic.

Many household hazardous wastes are improperly disposed of in the refuse, down the drain, in the soil, or evaporated into the air; others are simply stored for long periods of time. These storage and disposal practices can result in various health, safety, environmental and legal problems. Recent legislation attempts to address these problems associated with household hazardous wastes.

### State Legislation

AB 1809 requires each county's solid wastes management plan to identify a household hazardous waste program and provides for developing guidelines and State policies to guide local governments in providing community services for household hazardous wastes. Cities and counties are authorized to increase solid waste collection fees to offset the costs of these new programs.

### Monterey County Programs

Several programs exist within Monterey County which are designed to minimize illegal disposal of hazardous wastes generated by households. These are summarized below:

Collection Programs: Occasional household hazardous waste collection programs have been conducted within Monterey County. These programs provide households with an opportunity to safely dispose of hazardous wastes that are no longer used, banned or restricted. However, no regular household hazardous waste collection programs have been established by the county or any of the cities. A summary

of the County's collection efforts is presented on Table 8-5.

Waste Acceptance Control Programs: In recent years the Regional Water Quality Control Board has issued revised waste discharge requirements affecting the sanitary landfills within the region. These discharge requirements incorporate new provisions of the California administrative Code. One key element is the requirement for periodic load checking at solid waste landfills. The intent of the program is to discover and discourage attempts to dispose of hazardous wastes in solid waste landfills. The main features of the Monterey programs are: 1) to notify facility customers about applicable policies and procedures; 2) to conduct surveillance of incoming materials; and 3) to inspect random loads to discover and discourage prohibited wastes.

Household Hazardous Waste Acceptance Programs: The Monterey Regional Waste Management District conducts a comprehensive program for ongoing household hazardous waste acceptance. The District's landfills accept household hazardous waste by telephone appointment 5 days a week. The householder is encouraged by the waste inspector to use up and reduce the amount of hazardous material to be delivered for disposal. The waste inspector is responsible for inspecting wastes and preparing data records. Hazardous materials and wastes are segregated by hazard class, manifested and removed by a transporter for reclamation or transported to a Class I hazardous waste disposal site for disposal.

Education/Information Programs: Monterey County Environmental Health Division has compiled a list of household waste oil recyclers, hazardous waste haulers, and solvent recyclers for residents and small quantity generators.

#### Santa Cruz County Programs

Several programs exist within Santa Cruz County which are designed to minimize illegal disposal of hazardous wastes generated by households. These are summarized below:

Collection Programs: Although a regular Countywide program does not exist, three collection days for household hazardous waste were cosponsored in 1986 by the County Department of Environmental Health Services and all the cities. The City of Scotts Valley Public Works Department conducted one collection day in 1987 which was funded by the general fund, the water districts and by private industry. The City of Santa Cruz, Public Works Department conducts a regular curbside recycling program





Table 8-8

SUMMARY OF MONTEREY COUNTY  
HOUSEHOLD HAZARDOUS WASTE COLLECTION PROGRAMS

Date of Program	Location	Sponsor(s)	% of Households Participating	Cost
October 1985	Salinas Recycling Center, City of Salinas	Salinas Disposal Company and City of Salinas	1.4	NA
June 1986	Marina Disposal Site, City of Marina	Monterey Regional Waste Management District and City of Marina	0.5	\$54,000
September 1986	Salinas Recycling Center, City of Salinas	Salinas	0.4	\$74,000
June 1987	Salinas Recycling Center, City of Salinas	Salinas	0.6	NA



that includes the collection of waste oil. The City of Watsonville is discussing establishing a household hazardous waste transfer site, at which non-hazardous wastes are separated and treated and/or recycled and hazardous waste are collected and recycled as possible.

Waste Acceptance Control Programs: The County Department of Public Works and the cities of Santa Cruz and Watsonville operate landfills in accordance with the County Solid Waste Management Plan. Landfills are inspected by the Environmental Health Service for evidence of hazardous materials, such as household hazardous wastes, entering the site.

Household Hazardous Waste Acceptance Programs: There are currently no programs established in Santa Cruz County to accept household hazardous wastes other than the occasional "collection days".

Education/Information Programs: The County Environmental Health Service provides education and consultation services regarding water quality, food purity, septic tanks, solid waste disposal and certain aspects of toxics control. No specific household hazardous waste education and/or information program exists.

#### Adequacy of Existing Small Quantity Generator and Household Hazardous Waste Programs

Santa Cruz County has not yet identified potential small quantity generators. This should be accomplished and education programs initiated to assure that all generators are aware of existing regulations and programs which may affect them. Both counties should take full advantage of available federal education programs and literature. Further education of the small quantity generators within the region will reduce illegal disposal practices. Local community and private sector involvement have not yet been cultivated and could greatly enhance any small quantity generator program.

There is also the need in both counties to develop programs to facilitate proper recycling and disposal of small quantities of hazardous waste. Occasional "collection days" are inadequate to respond to the need for regular household hazardous waste disposal. Monterey County's household hazardous waste acceptance program is a step in the right direction, but it requires an aware population to be successful. More convenient local collection services and transfer stations should be considered to accommodate waste from both small quantity generators and households. Waste oil comprises the majority (55 %) of the waste stream from small quantity generators and should be given primary consideration. (Waste oil is also a large percentage (24%) of the household hazardous waste stream.)

Education campaigns designed to inform the public about what household hazardous wastes are, how to avoid generating them and how to properly dispose of them, should accompany collection efforts to increase their effectiveness.



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## 9.0 PLAN IMPLEMENTATION AND UPDATES

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The following describes programs intended to implement the AMBAG, Santa Cruz and Monterey County Hazardous Waste Management Plans. The AMBAG programs are described in full. The County programs are summarized.

### 9.1 AMBAG Hazardous Waste Management Plan

The following programs will be undertaken by AMBAG to implement the AMBAG Hazardous Waste Management Plan:

#### Public Participation

1. Working in cooperation with the Counties of Santa Cruz and Monterey, participate in workshops and conferences on the Regional and County Hazardous Waste Management Plans and Environmental Impact Report.
2. Participate with one member of each County Advisory Committee and staff from each of the County Environmental Health Divisions to keep up-to-date with new laws and regulations affecting the Tanner process. (This is a recommendation of the Monterey County Hazardous Waste Management Plan).

#### Environmental Review

3. Prepare an environmental impact report (EIR) to address the impacts of the AMBAG and County Hazardous Waste Management Plans. The EIR will be circulated to agencies and interested parties throughout the region and and state and revised in response to their comments.

#### Household Hazardous Wastes and Small Quantity Generators

4. Develop and distribute a directory to provide consistent guidance on the proper disposal of small quantities of hazardous wastes. (This is a recommendation of the Monterey County Hazardous Waste Management Plan).

#### Revision of the Hazardous Waste Management Plan

5. Review and revise the AMBAG Regional Hazardous Waste Management Plan as needed but not less than every three years.

## Inter-County Agreements

6. Coordinate the development of hazardous waste management facilities inter-county agreements with counties within and beyond the region as necessary for the proper management of hazardous wastes.

The Tanner Bill suggests that counties may develop inter-county agreements regarding the management of hazardous wastes in regional recycling, treatment, incineration and residuals disposal facilities. With the phase out of land disposal and the subsequent demand on existing treatment facilities, a range of new hazardous waste management facilities will be required to meet demand. It is highly unlikely that any one county will be able to assure its generators of the complete range of needed services through facilities located within the county. Within the AMBAG region, for example, there is only sufficient demand to economically support a regional transfer and storage facility. Thus, Santa Cruz and Monterey Counties will most likely rely on facilities located throughout the state to meet local treatment needs.

Since most hazardous waste management facilities will serve generators across wide geographic areas, counties have some incentive to develop agreements with other counties to provide for the collective distribution and use of hazardous waste management facilities in order to demonstrate that their CHWMPs comply with the Tanner Process.

AMBAG will act as a forum to facilitate inter-county agreements among counties within and adjacent to the region. Appendix contains a draft document prepared for the County Supervisors Association of California on inter-county agreements.

7. Coordinate Monterey and Santa Cruz County Plans with plans of other counties in and beyond the region including:
  - o Siting of regional transfer, storage, and disposal facilities (TSDF)
  - o Emergency response
  - o Safe Transportation
  - o Regional waste collection programs.

(This is a recommendation of the Santa Cruz County Hazardous Waste Management Plan).

### Data Collection/Analysis

8. Participate in the organization and development of a Data Information System for hazardous waste management with Monterey, Santa Cruz and San Benito Counties. (This is a recommendation of the Santa Cruz County Hazardous Waste Management Plan).

### Funding Sources

The preparation of the AMBAG Regional Hazardous Waste Management Plan and EIR and participation in the public participation process have been funded by the State Department of Health Services from funds provided under AB 2948. Implementation of the other programs outlined above is dependent on additional funding from the Department of Health Services and/or the Counties of Santa Cruz and Monterey.

## 9.2 Monterey County Hazardous Waste Management Plan

Section 21 "Implementation" of the Monterey County Hazardous Waste Management Plan (MCHWMP) describes the hazardous waste management implementation programs for the county. The MCHWMP provides implementation programs for the management of hazardous wastes currently and into the near future until the year 2000. Where appropriate, Section 21 describes each implementation program as 1. Ongoing, 2. Short Term (1988-1989), and 3. Medium Term (1990-1999). A summary of the MCHWMP Implementation Programs follows:

### Public Participation

The Monterey County Hazardous Waste Management Plan Advisory Committee was established to assist the County in preparing the Plan. The duties of the Committee follow:

1. Advise county and city staff, Board of Supervisors, and the city councils on issues related to the development, approval, and administration of the Plan.
2. Hold informal public meetings and workshops to inform the public and receive comments during the preparation of the Plan.

Ongoing public participation programs of the Advisory Committee include:

3. Prepare press releases and hold public workshops in various cities during 1988 to inform the public about the Plan preparation process.
4. Arrange for the County to meet with city representatives to discuss the Plan and to encourage the cities to solicit public input.
5. Arrange for one member of the Advisory Committee and staff from AMBAG and Environmental Health Division to keep up-to-date with new laws and regulations affecting the Tanner process.

### Ongoing Data Collection/Analysis

Short term data collection and analysis programs include:

6. The data base is currently used to track hazardous material inventory information from businesses. The data base system will be expanded by 1989 to include information on underground tank releases, hazardous materials incidents, contaminated sites, and complaints. Plan recommendations for further expansion of the data base include information on:

- a. Hazardous waste management facilities
- b. Wastewater discharges
- c. National Pollution Discharge Elimination System (NPDES) discharges
- d. Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III data

The data base will be compiled on a regular basis and made available to the public.

#### Waste Reduction

Waste Reduction Needs and Impacts are described in Section 10 of the MCHWMP. The Plan states that the Advisory Committee identified waste reduction as the number one objective of hazardous waste management in Monterey County. Waste reduction implementation programs described in the Plan illustrate the commitment to county-wide hazardous wastes minimization.

Ongoing waste minimization programs require new industries to register with the Environmental Health Division concerning existing underground tanks and to provide data required by AB 2185/2187 and SARA.

Short term waste reduction programs include:

7. Develop a slide or video show by the Advisory Committee on waste reduction for generators, trade associations, and community organizations.
8. Develop an awards program by the Advisory Committee publicizing leading firms in waste reduction.
9. Establish an education outreach program by a potential Blue Ribbon Waste Reduction Task Force to provide demonstration waste reduction plans.
10. Establish an Environmental Health Division permanent staff position to administer a county wide waste reduction program and maintain the county's hazardous waste data base.
11. Distribute waste reduction information to waste producers as part of the business license process.
12. Provide to local business a list of engineers and consultants who specialize in waste reduction.

Medium term waste reduction programs include:



13. Adopt an ordinance requiring all new hazardous waste generating firms to implement a waste reduction program as a condition of receiving a permit.
14. Require all hazardous waste generating firms to prepare waste reduction audits once per year and yearly waste reduction progress reports for submission to the Environmental Health Division.
15. Identify incentives for generators to implement waste reduction by the Advisory Committee.
16. Review of new industry applications for waste reduction programs by the Environmental Health Division and by the Planning Department as a part of the environmental review process under CEQA.
17. Encourage the Economic Development Corporation and other local industrial associations to provide seed funds for a revolving loan fund to allow small companies to implement waste reduction programs.

#### Siting

Siting of Hazardous Waste Facilities is described in Section 11 of the MCHWMP. This section includes information on siting criteria, candidate areas, and a summary of the major hazardous waste facility types and in situ treatment of contaminated soil.

Short term programs of the Advisory Committee will be to refine the siting criteria and seek California Department of Health Services approval of the refinements.

#### Transportation

The Hazardous Waste Transportation System is described in Section 12 of the MCHWMP. This section discusses the system criteria for selecting connector routes, and local, state and federal restrictions on the transportation of hazardous wastes.

Medium term programs for transportation include:

18. Update the map of designated hazardous waste transportation routes when specific hazardous waste facility sites are chosen. This program would include needed hazardous waste route upgrading and upgrading of schedule and funding sources.
19. Develop a model ordinance for the transportation of hazardous wastes.

### Storage Program

Hazardous Material Storage Regulations are described in Section 15 of the MCHWMP. This section addresses city, county, and state underground tank ordinances, and proposed federal underground tank regulations.

The short term program is to develop a county above ground tank ordinance similar to that enacted by Santa Clara County.

### Contaminated Sites

Disclosure Information on Contaminated Sites is addressed in Section 16 of the MCHWMP. This chapter includes descriptions of contaminated sites within Monterey County and disclosure regulations concerning contaminated property, and tables listing leaking underground storage tanks, hazardous materials incidents, accidental spills, and responses to contaminated soil inquiries.

The short term program is to provide a summary of contaminated sites to the major libraries for public access and develop and distribute a contaminated sites newsletter.

The medium term goal concerning contaminated sites is to adopt an ordinance that requires environmental review for sites proposed for rezoning to residential use from agricultural and industrial land uses.

### Household Hazardous Wastes and Small Quantity Generators

Programs for Small Quantity Generators and Programs for Household Hazardous Wastes are described in the MCHWMP in Sections 17 and 18, respectively. Small quantity generators (SQG) are defined as those who generate between 100 and 1,000 kilograms (220 to 2,200 pounds) per month of hazardous wastes.

Ongoing programs for SQG and households include:

20. Adopt a load checking inspection and enforcement program to reduce the disposal of hazardous wastes at the landfills by all solid waste landfill operators.
21. Environmental Health Division to continue to respond to inquiries on the proper disposal of small amounts of hazardous waste.
22. Encourage schools to remove hazardous materials from their premises.

Short term implementation programs include the recommendation that all customers should be notified by solid waste haulers and landfill operators that hazardous wastes are prohibited from the

solid waste stream and that generators can be held liable for improper disposal.

Medium term programs for SQG and households include:

23. All communities ensure that permanent management programs and facilities are available for the SQG and households.
24. Locate an oil recovery and a minimum of two transfer facilities in the County. Permanent hazardous waste transfer facilities should be located to serve several communities as well as the region, the SQG, and households.
25. Provide hazardous waste transport management ("milk run") pickup services and generator cooperatives for recycling and recovery of hazardous wastes and especially used motor oil.
26. Encourage chemical distributors to obtain permits so they can also pickup wastes when they deliver products.
27. Provide special safety training on handling hazardous wastes to refuse collectors, disposal workers, and sewage treatment plant operators.
28. Make available Environmental Protection Agency (EPA) guidance booklets on SQG management through the county inspection programs, trade associations and private groups.
29. California Department of Health Services continue to provide on-going training classes for local government staff with emphasizes on the SQG and field training.
30. Conduct public education programs to inform people about the management of household hazardous wastes.
31. The County prepare and distribute an educational booklet on proper management of household wastes.
32. Consideration given to include used motor oil recycling as a part of existing programs and SQG and household pickup of motor oil on a prearranged schedule.
33. Each city designate a location where used motor oil and lead acid batteries will be accepted.
34. Community collection programs arrange for latex paint reuse.
35. AMBAG develop a directory to provide consistent guidance

on the proper disposal of small quantities of hazardous wastes.

36. Make copies of "Alternatives to Using Toxic Chemicals in the Home" available to residents.
37. Incorporate educational materials on the safe use and disposal of household waste into primary and secondary school curricula.

#### Emergency Response

Emergency Response Programs are described in Section 14 of the MCHWMP. The Monterey County Health Department's Division of Environmental Health coordinates an Emergency Response Program that provides technical oversight for all emergency situations including hazardous waste incidents. The Environmental Health Division has submitted an "Area Plan" for emergency response to release of hazardous materials for review by the State Office of Emergency Services.

The Monterey County Office of Emergency Services has prepared Monterey County Disaster Response Plan, June, 1986, that in part covers the broad spectrum of incidents resulting from hazardous materials accidents. The Disaster Response Plan is incorporated by reference. The Response Plan provides details for the response to hazardous materials incidents.

The City of Salinas Fire Department operates an emergency response van equipped to respond to hazardous materials emergencies. The Salinas Fire Department will provide emergency response services to hazardous materials incidents to the entire county. Funding for the van and response will be from the parties responsible for the hazardous materials incident, the federal or state governments, and the city itself.

Short term emergency response programs include:

38. Expand the Monterey County Disaster Council so that it can deal with hazardous waste management emergencies.
39. Provide additional hazardous materials response training for members of the Emergency Response Team.
40. Investigate county-wide funding for the City of Salinas' Emergency Response Van.
41. Notify, by the local emergency response commission, businesses of their SARA Title III responsibilities .

Medium term emergency response programs include:

42. Computerize and coordinate all the federal and state emergency response programs.



43. Implement the County's Area Response Plan and update it periodically.
44. Educate business on implementing chemical awareness and emergency response programs and outreach programs.

#### Asbestos and Infectious Wastes

Management of Asbestos and Infectious Wastes is addressed in Section 19 of the MCHWMP. The discussion of asbestos and infectious wastes is not required by the Department of Health Services Guidelines for the Preparation of Hazardous Waste Management Plans; however, the Advisory Committee elected to include the discussion in the MCHWMP. Section 19 of the Plan describes the regulatory policies concerning asbestos and infectious wastes as well as their disposal.

Short term programs for asbestos and infectious wastes include:

45. Seek the required approvals for disposal of asbestos wastes at the existing Jolon Sanitary Landfill.
46. Adopt an ordinance to place more restrictive requirements on the management of infectious wastes.
47. Division of Environmental Health should inform doctors' offices on the proper management of infectious wastes.
48. Develop educational programs supported by local medical society to educate doctors concerning proper management of infectious wastes.

#### Revision of the Hazardous Waste Management Plan

The medium term goal for revision of the Plan is as follows:

49. Review and revise the Plan every three years. All Plan amendments should be subject to the same public participation process as those used to develop the original Plan. The Plan data base should be examined and reviewed yearly.

#### Funding Sources

Local and state funding will be needed to carry out the programs described in the Plan and summarized above. Potential funding programs include the following:

50. Users Fees: User Fees may be imposed by a city or county on an off-site hazardous waste facility as a special purpose tax or user fee on that facility.



51. Health Ordinance: A fee schedule or property assessment health ordinance could be adopted to provide for enforcement by public health officers of hazardous waste regulations.
52. Special Taxes: Special taxes can be imposed by local agencies with a majority vote of the city or county legislative body and a two-thirds vote of the electorate.
53. Permit Fees: Cities and counties may assess business license taxes to recover the cost of regulating business within their jurisdiction.
54. Fines and Penalties: Violation of local ordinances can require payment of fines and penalties. This could include violation of fire code or route restrictions.
55. Revenue Bonds: A local government may obtain money necessary to develop hazardous waste facilities with the revenue bond mechanism.
56. Franchise Fees: If a hazardous waste business franchise is established, a local jurisdiction may impose a franchise fee on the operation.
57. State Funding: Consideration should be given by the state to enact legislation to fund updating of the Plan in future years.

### 9.3 Santa Cruz County Hazardous Waste Management Plan

Section 8 "Future Management Programs for Santa Cruz County" and Section 9 "Implementation" of the Santa Cruz County Hazardous Waste Management Plan (SCCHWMP) describe policies, actions, existing program, new programs, future studies, and implementation for hazardous waste management in the county. The programs and implementation of the Plan are intended to provide for the proper management of hazardous wastes in the County for the next twenty years.

The hazardous waste management policies described in Section 8 of the SCCHWMP reflect five major themes including focusing on environmental and public health concerns; developing educational and technical assistance; establishing better contact between County staff and the private sector; developing and refining an accurate and comprehensive database for hazardous materials and waste management; and coordinating City, County and Regional Programs.

SCCHWMP policies are arranged into four major categories which are further classified into seventeen policy areas. A summary of the SCCHWMP policies include:

#### Industrial Waste Management Policies

##### 1. Promote On-site Source Reduction Waste Minimization:

- a. Amend existing ordinances, or develop new ordinance to explicitly stipulate the use of hazardous waste management hierarchy with reference to Federal and State law.
- b. Determine whether reduction efforts should be housed in regulatory agency(cies) or in a nonregulatory body such as County Office of Chief Administrative Officer, with specific liaison to pertinent regulatory agencies.
- c. Closely coordinate program with, and perhaps incorporate into, small generator program.
- d. Achieve economies of scale by combining County and City efforts to develop a comprehensive, cross-media reduction program combining: donation of private sector resources, technical assistance, education, revolving loan fund, use of State DHS self-audit and other program materials, and options for recycling and treatment.
- e. Coordinate sharing of data and experience between various County and Regional agency programs, and with Watsonville Department of Public Works.

- f. Continue program to incorporate information on reduction of hazardous materials use into projections for future waste capacity needs.
  - g. Share program methods with other agencies considering similar enforcement programs.
- 2. Coordinate Off-site Waste Management with Importing Counties:
  - a. Negotiate Memorandums of Understanding (MOU) with importers of Santa Cruz County hazardous waste based upon projections of waste capacity and waste generation.
- 3. Establish Hazardous Materials Storage, Inventory, Disclosure and Permitting:
  - a. Coordinate collection of AB 3777 registration forms (acutely hazardous materials) with inventory and disclosure provisions of underground tank ordinance.
  - b. Determine what additional information is provided by AB3777 registration process.
  - c. Continue to tract State efforts to determine minimum, requirements for SARA Title III into local programs with minimum disruption.
  - d. Obtain redelegation of authority by Scotts Valley Public Works Department from County for underground tank ordinance.
  - e. Systematically review major cases of noncompliance with storage provision and prescribe penalty, with increased penalties after the defined dates.
- 4. Provide Comprehensive Inspection and Monitoring of Hazardous Wastes:
  - a. Coordinate inspections and permitting with existing ordinances.
  - b. Develop a fee collection ordinance.
  - c. Review advantages and disadvantages of entering into MOUs with State DHS.
  - d. Ensure that hazardous materials and hazardous waste permitting is handled by same jurisdiction, and if possible the same agency.

- e. Resolve hazardous materials delegation issue with Scotts Valley, and further implement hazardous materials programs before seeking hazardous waste generator inspection and permitting authority.
  - f. Watsonville hazardous materials programs are well advanced and may be ready to add hazardous waste element in near future as appropriate.
5. Promote Needed Environmentally Sound Waste Disposal Facilities:
- a. Implement provisions of SCCHWMP related to facility needs assessments including zoning changes as appropriate.
  - b. Coordinate data sharing with Cities of Scotts Valley and Watsonville.
  - c. Develop procedures as needed to anticipate requirements of Tanner Legislation regarding facility siting and permitting.
  - d. Promote needed facilities through local assessment committee.
  - e. Promote needed facilities through simultaneous permit review.
  - f. Provide for inter-county data sharing.
  - g. Coordinate development of industrial zoning with SCCHWMP.

#### Target Area Policies

6. Address Hazardous Materials and Waste Needs of the Electronics and Computer Industry :
- a. Establish industrial treatment and storage facility for industrial hazardous waste. Coordinate regional treatment and disposal facility for contaminated soils.
  - b. Watsonville Planning Department coordinate with private industry and other cities and provide needs assessment, siting study, and site and operations plan permits and EIRs.
7. Establish Small Business Hazardous Wastes:
- a. Using existing business license lists and permit information, identify small businesses that generate hazardous wastes.

- b. Identify wastestreams and treatment disposal needs.
  - c. Prepare and distribute information package with the following:
    - o regulatory requirements
    - o basic materials and waste management practices
    - o listing of available treatment/disposal services.
  - d. Follow distribution of information with non-enforcement inspections.
  - e. Determine level of support that may be available from private sector.
  - f. Evaluate desirability of providing County support to small business generators.
  - g. Explore County or State imposed labeling requirements on hazardous materials.
8. Establish Household Hazardous Waste Program:
- a. Conduct recommended survey and develop model plan.
  - b. Examine economies of scale in combining County and City efforts in:
    - o Educating and preparing bilingual materials
    - o Providing centralized collection/transfer facility serviced by satellite collection facilities or collection days
    - o Extending waste oil collection efforts or other waste oil management efforts Countywide.
  - c. Scotts Valley and Watsonville should determine responsible agency for operation of collection program and transfer station.
9. Promote Reduction and Proper Use of Pesticides:
- a. Increased monitoring of non-restricted pesticide use.
  - b. Increase research into integrated pesticide management for farm and for land-scraping practices.
  - c. Assistance from UC Agricultural Extension in providing education to households and small businesses.



- d. Establish and on-going transfer station.
- e. Provide pesticide handling training for farm workers. Program should be bilingual and provided by agency or organization that is trusted by farmworker community.

10. Special Issues and Future Studies:

- a. Survey small quantity infectious waste generators to determine most effective means of collecting wastes.
- b. Explore the possibility of forming an agreement between small quantity generators and hospitals for incineration of wastes.
- c. Present education programs and/or information on waste minimization to be presented to hospital, clinic and veterinary personnel.

Improper Waste Handling and Disposal Policies

11. Provide Improved Monitoring and Enforcement of Pretreatment Standards:

- a. Implement new technically-based pretreatment standards developed for Santa Cruz City Plant.
- b. Complete survey and site visits in the County and extend programs to those areas where discharge surveys and inspections have not been conducted. Include survey results in Data Information System.
- c. Monitor Data Information System for changes in building use that may alter discharges.
- d. Consider adoption of Watsonville pretreatment enforcement program for entire County.
- e. Establish on-going surveillance program.

12. Reduce Improper/Illegal Disposal:

- a. Adopt hazardous waste generator Program(s) to monitor off-site flow of hazardous waste.
- b. Complete development of local pretreatment standards.
- c. Collect, analyze, and share data as a crucial element in anticipated cross-media shifts in

(illegal) disposal, such as possible increased sewerage due to land disposal ban.

- d. Assess, and revise as necessary, present efforts to detect and prevent disposal of hazardous waste in solid wastestream.

13. Identify and Assure Cleanup of Contaminated Sites:

- a. Conduct recommended study to ensure long-term inter-governmental coordination regarding:
  - o Lead agency for each site
  - o Status and schedule
  - o Relative priorities
  - o Funding
  - o Computerized tracking of all the above.
- b. Review Solid Waste Assessment Test (SWAT) monitoring schedules for solid waste facilities located in the County and consider moving up test dates.
- c. Conduct review of potential other sources of contamination, such as pesticide application or drift, that may need to be addressed to prevent further problems.

14. Provide Improved Emergency Response and Provide Safe Transport of Hazardous Materials and Hazardous Wastes:

- a. Convene standing County-wide Emergency Response Committee, including private sector representation by large volume hazardous materials users.
- b. Implement Area Plan once adopted.
- c. Develop mutual aid agreements with business with comprehensive in-house emergency response capability.
- d. Review AB3777 registration data (acutely hazardous materials) to determine if detailed AB3777 Plans (or partial plans) should be required from specific firms.
- e. Review model ordinance for toxic gases under development by Santa Clara Fire Chiefs Association for potential adoption in Santa Cruz County.

Coordination Policies

15. Promote Public-Private Cooperation:

- a. Public and private sectors to meet regularly in the approval, implementation and periodic review of the SCCHWMP.
  - b. Construct or amend County Data Information System and industry data collection systems to be as compatible as possible.
  - c. Conduct education and technical workshops targeted at specific classes of waste generators using existing trade agencies as possible.
16. Coordinate County, City, and Regional (AMBAG) Plans and Programs:
- a. Continue efforts of Hazardous Materials Advisory Commission.
  - b. Organize the Data Information System.
  - c. Coordinate inspection and monitoring through a standing Program Managers' Committee.
  - d. Coordinate County Plan with plans of other counties in the region including:
    - o Siting of industrial transfer, storage, and disposal facilities (TSDF)
    - o Emergency response/safe transport
    - o Waste collection programs.
17. Develop Coordinated Data Information System:
- a. Establish central location and operation for Data Information System.
  - b. Reorganize existing information system elements so that they serve as management, as well as enforcement tool.
  - c. Provide for regular review and update information system.
  - d. Establish cross-media tracking of wastes.
  - e. Expand program to include Small Quantity Generators and households.
  - f. Establish regular data entry and analysis programs.
  - g. Coordinate with regional and State systems.

Section 9 of the SCCHWMP provides a description of the strategies for implementing programs of the Plan. A summary of the implementing programs follows:

Program A: Program Priorities and Schedule:

Table 9-1 of the Plan provides program priorities, schedule, and cost range for implementation of the SCCHWMP Policies summarized above. The implementing schedule is divided into phases defined as short-term (1988-1989), medium-term (1990-1993), and long-term (1994-2000). Programs are assigned precedence relative to each other without a schedule or cost estimate and are given a precedence of low, medium, and high. Cost estimates are rated low, medium, and high.

Implementation programs rated as highest priority and short-term action are: source reduction/waste minimization, regional coordination, comprehensive inspection and monitoring, facility siting, small business hazardous waste, contaminated sites, and data information system.

Program B: Organizational and Staffing Needs

The Plan estimates that four existing and two proposed positions are needed to implement and administer SCCHWMP policies, programs, and plans. The Santa Cruz County Environmental Health Services Department, Watsonville Fire Department, and Scotts Valley Public Works Department need to access additional future staffing requirements as they related to Plan implementation.

Program C: County Ordinances and Resolutions

The following legislative action will be required by the Santa Cruz County Board of Supervisors for the management of hazardous wastes:

o Resolutions

1. Adopt interim hazardous waste management programs until SCCHWMP is adopted.
2. Certify Environmental Impact Report for SCCHWMP.
3. Adopt SCCHWMP.
4. Incorporate SCCHWMP as element to General Plan and amend General Plan as necessary to be consistent with SCCHWMP, Local Coastal Program, and zoning ordinance.
5. Apply for amendment to County Local Coastal Program and Implementation.

o Ordinances



6. Amend zoning ordinance.
7. Adopt "Comprehensive Hazardous Materials/Wastes Inspection and Monitoring" ordinance.
8. Prepare and adopt ordinances for other program elements as needed.

Program D: Public and Private Sector Options for Funding Future Programs

A summary of funding sources available for implementation of the Plan are as follow:

- I. New Sources of Funding Within Santa Cruz County
  - o Funding of Public Sector Programs
    1. Permit Fees: Fees could be collected to support the hazardous waste generator inspection and permitting program proposed in the Plan.
    2. Increased Enforcement: Revenues through penalties and fines in the enforcement of local and state requirements for the management of hazardous wastes could be collected.
    3. Municipal Solid Waste Collection Fees: Increasing the rates charge for the collection of solid waste could be used to offset costs for household hazardous waste collection and education programs.
    4. Transfer Station Acceptance Fees: Fees applied to wastes delivered to the station to in part offset the costs of station operation.
    5. Water Rates: City or County permit fees for operation of private water companies to potentially offset the costs associated with monitoring of surface water programs.
    6. Gasoline Tax: Increase in gasoline tax as a means of funding potential transportation improvement projects related to hazardous waste transportation.
  - o Funding of Private Sector Programs
    7. Internal Financing: Funding of programs through use of current capital to fund recycling and treatment by businesses that generate hazardous wastes.
    8. Loans: Loans from financial institutions for investment into programs.



9. Waste Reduction Revolving Loans: County established revolving loan fund for small businesses to pay for source reduction and waste reduction activities.
  10. In-Kind Assistance: Sharing of hazardous waste management resources among business and county agencies.
- II. Sources of Funding Outside of Santa Cruz County
- o Funding of Public Sector Programs
  - 11. Federal RCRA Funding: A one time grant disbursement through the State Department of Health Services to fund hazardous waste management program activities may be possible.
  - 12. Federal Grants for Waste Reduction: Federal funding may be available for innovative local hazardous waste reduction programs based on pending legislation.
  - 13. State Hazardous Waste Reduction Grants: This grant procedure is funded by the State Department of Health Services' waste reduction demonstration program. This grant program is administered pursuant to AB 685 and is funded at a level of one million dollars per year. Grant recipients are required to provide matching funds.
  - 14. Solid Waste Disposal Site Hazard Reduction Grants: AB 2448 establishes the Solid Waste Disposal Site Hazard Reduction Act of 1987 with provisions to fund programs that limit the disposal of hazardous waste in solid waste landfills.
  - 15. Fee on Off-site Waste Management Facilities: AB 2948 and the pending AB 2405 allows local government to collect a "gross receipts tax" of any off-site multi-user facility used for the storage, treatment, or disposal of hazardous wastes.
  - o Private Sector Activities
  - 16. State Hazardous Waste Reduction Grants: Under AB 685, grants in the form of matching funds for use by the private sector are available for the development and evaluation of new and innovative technologies for hazardous waste reduction.
  - 17. State Pollution Control Financing Authority: Funding in the form of tax-exempt revenue bonds from the California Pollution Control Financing Authority are available to finance investments in equipment required to meet regulatory standards for air and water quality.

18. Federal Loan Program: The Federal Small Business Administration's Pollution Control Facility Payment Guarantee Program loans are available to cover the capital costs of pollution control or waste management projects.
19. Pooled Loan Market Corporation: The Pooled Loan Marketing Corporation is a private sector institution established to pool private bank financing in order to assist small businesses that need to make hazardous waste management investments.
20. Inter-County Compensation: Compensation could take a variety of form ranging from direct revenue transfers to provisions for mitigating transportation impacts or other impacts on the host county, to provisions for sharing emergency response equipment, personnel or expertise with counties adjacent to the host county.
21. Coordination of Programs: In addition to considering the various options for funding sources, careful thought should go into the timing and coordination of positive and negative incentives for proper waste handling, making sure that incentives promote the waste hierarchy.

#### Program E: Review and Update of the SCCHWMP

Based on assessments by the Program Managers Committee and the Hazardous Materials Advisory Committee, the SCCHWMP would be updated as needed, or at least every three years.

#### Program F: Public Participation and SCCHWMP Approval

The Hazardous Materials Advisory Committee was formed in 1983 because of a desire to properly manage hazardous materials in the County. The Committee was designated as the Santa Cruz County Hazardous Waste Management Plan Advisory Committee to assist in the preparation and administration of the SCCHWMP. The Advisory Committee has met at least once per month in meetings that have been publicly noticed and open to the public.

The Santa Cruz County Environmental Health Services Department is the designated County agency to coordinate citizen participation and community relations for hazardous waste management.

After the draft SCCHWMP is submitted to the California Department of Health Services, County staff with Advisory Commission support will hold two public meetings and hearings in the Cities of Santa Cruz, Capitola, Watsonville, and Scotts Valley seeking approval of the Plan. After the Cities approve the Plan, the Santa Cruz County Board of Supervisors will take action to adopt the final Plan.

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## 10.0 PLAN CONFORMITY

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### 10.1 Conformity of AMBAG Plan with Hazardous Waste Management Plans of Monterey and Santa Cruz Counties

The AMBAG Hazardous Waste Management Plan integrates the major elements of the Hazardous Waste Management Plans of Monterey and Santa Cruz Counties. All data used in the AMBAG plan are derived from the two plans. In addition since implementation of regional waste treatment facilities depends on incorporation of regional needs into county plans, AMBAG worked closely with the two counties to assure that regional siting criteria and recommended general areas for regional waste treatment facilities are consistent with the county plans.

### 10.2 Conformity of Regional and County Plans with Other Regional Plans and Local Plans

The following section discusses consistency of the AMBAG and Counties' Hazardous Waste Management Plans with the applicable regional, area, and local plans.

#### Water Quality Management Plan for the Monterey Bay Region

The Water Quality Management Plan for the Monterey Bay Region contains recommendations for protecting water quality from non-point sources of water pollution. The Plan addresses septic system failures, erosion and sedimentation, coastal lakes, nitrate pollution of groundwater in Pajaro and Salinas Valleys, seawater intrusion, aquifer recharge, chemical water quality degradation and watershed management. Recommendations related to erosion and sedimentation are the most pertinent to hazardous waste management planning.

Erosion and Sedimentation. Erosion is identified as a major source of water pollution within the region. In response to regional water planning efforts, most local jurisdictions including the Counties of Monterey and Santa Cruz have adopted erosion control ordinances. Additionally, numerous jurisdictions have incorporated erosion control policies in their local general plans and local coastal plans. Potential erosion and sedimentation impacts from the construction of hazardous waste management facilities would be mitigated by requirements of these ordinances and implementation of general plan policies. Consistency with the Water Quality Plan is expected to be achieved with implementation of these ordinances and General Plan policies.

Chemical Water Quality Degradation. The Plan identifies specific chemical water degradation problems resulting from various activities within the region and recommends implementa-



tion of applicable programs and studies. The recommendations do not directly relate to hazardous waste management planning.

### 1982 Air Quality Plan for Monterey Bay Region

Project consistency with the 1982 Air Quality Plan for the Monterey Bay Region is determined by comparing population forecasts used in development of planning documents with those used in preparing the Air Quality Plan. The 1982 Air Quality Plan utilized AMBAG's 1979 population forecasts to project growth in emissions within the region. Under these forecasts total population in 2000 for Monterey and Santa Cruz Counties is 419,000 and 227,500 persons, respectively. AMBAG's population forecasts were revised in October, 1987. Total population in 2000 and 2005 for the respective counties follows:

	<u>2000</u>	<u>2005</u>
Monterey County	428,100	457,700
Santa Cruz County	279,900	297,600

The 1987 population forecasts have been utilized in preparing the Hazardous Waste Management Plans for the two counties and will also be used to update the 1982 Air Quality Plan which will be completed in 1989. Thus, while the hazardous waste planning effort is currently inconsistent with the 1982 Air Quality Plan, project consistency will be achieved in 1989 when the Air Quality Plan is updated.

### Monterey Bay Unified Air Pollution Control District Rules and Regulations, Rule 1000

The Monterey Bay Unified Air Pollution Control District (MBUAPCD) regulates stationary and area sources of air pollution within Santa Cruz, Monterey and San Benito Counties. Proposed hazardous waste management, disposal or treatment facilities which have the potential to emit toxic air contaminants would be regulated under the MBUAPCD Rule 1000, and they would not be authorized to be constructed or operated unless proposed operations were consistent with District rules and regulations.

Rule 1000, adopted in 1986, establishes permit guidelines and requirements for sources emitting toxic air contaminants. The rule applies to new or modified stationary sources and regulates both noncarcinogenic toxic contaminants and carcinogenic compounds.

Under Rule 1000 carcinogenic compounds which would create a risk of cancer incidence of more than one person per 100,000 are prohibited from being emitted into the atmosphere. The assessment of risk is calculated at the point of maximum ground level impact off the facility property, and human exposure is assumed to occur at the point of maximum ground level impact for 70 continuous years with regular or continuous exposure to the

concentrations for that entire period. Best Control Technology (BCT) is required for these sources. BCT is defined as the most effective emission control device or technique successfully used for the type of equipment to be regulated and which is cost-effective as determined by the Air Pollution Control Officer.

Noncarcinogenic compounds differ from carcinogens in that they are assumed to have an exposure level below which they are "safe". Emission impact cannot exceed for any one hour period 1/420 of the Permissible Exposure Limits (PELs) specified in Title 8 of the California Administrative Code Section 5155 unless otherwise specified by the Air Pollution Control Officer. Permissible Exposure Limit is defined as a work-shift, time-weighted average of a given toxic air contaminant concentration established for airborne concentration of a given substance which provides for the conditions and amount of the substance to which most workers can have daily exposure for a working lifetime without suffering known adverse health effects. Reasonable Control Technology is required for sources of noncarcinogenic compounds. This technology is defined as the control device or technique which is readily available and is commonly used for similar types of equipment.

Finally, a multimedia evaluation is required when the emitted toxic air contaminant would be entrained in more than one media, i.e., air, water, and soil. A multimedia evaluation considers the fate of the pollutant in the environment and associated risks. The rule allows for risk offsets in the event that contamination of one media is offset by reducing contamination in another, e.g., air pollution created by air stripping to clean-up polluted groundwater. On the other hand, it requires all risks associated with each affected media to be added together and to be limited overall to the risks established in Rule 1000.

#### Regional Transportation Plans

Both Monterey and Santa Cruz Counties prepare and update every two years their Regional Transportation Plans (RTP). The purpose of regional transportation planning is to reaffirm and refine transportation policy and to provide plans and programs for the next 20 years of transportation system development. AMBAG is the designated Metropolitan Planning Organization for Monterey and Santa Cruz Counties. AMBAG's role in the transportation planning process is to review County regional transportation plans for compliance with the regions goals and plans, and to ensure that County regional transportation plans have been prepared in conformance with Federal planning guidelines.

While the Santa Cruz County and Monterey County RTPs do not specifically address the transportation of hazardous wastes, the Plans contain information directly pertinent to hazardous waste planning. The Plans indicate that in the northern portion of



the region, all or portions of eight of the ten State highways are at Level of Service (LOS) D or below. All or portions of seven of these highways will be at LOS F within the next 15 years. There are only two approved and funded projects designed to address congestion: the Hatton Canyon Freeway and the Toro Park Interchange. The transportation of additional hazardous wastes into or through the Counties under current and projected Levels of Service could increase the potential for accidents resulting in conditions which are inconsistent with regional transportation goals.

Level of Service is a term used to describe the quality of operation of a highway facility. It is a qualitative measure of the effect of factors such as speed and travel time, traffic interruptions, freedom to maneuver, driving comfort, convenience, safety, and operating cost. Level of Service ratings are described in terms "A" through "F". LOS A describes conditions of free flow with low volumes and high speeds, LOS B is in the zone of stable flow with operating speeds beginning to be restricted somewhat by traffic conditions, LOS C is still in the zone of stable flow but speeds and maneuverability are more closely controlled by higher volumes, LOS D approaches unstable flow with tolerable operating speeds being maintained though considerably affected by changes in operating conditions, LOS E represents operating speeds lower than LOS D with volumes at or near capacity of the highway, and LOS F describes conditions of forced flow operation at low speeds where volumes are below capacity.

The Regional Transportation Plan policy goal for Santa Cruz County concerning Level of Service is to maintain a LOS of D or better. The RTP policy goal for Monterey County is to maintain a LOS of C or better.

#### Water Quality Control Plan (Basin Plan)

The Water Quality Control Plan for the Central Coast Basin of California, usually referred to as the Basin Plan, is the primary instrument guiding water quality management in Monterey, Santa Cruz and San Benito Counties. The Basin plan, originally released in 1975 and amended on numerous subsequent occasions, was developed jointly by the California State Water Resources Control Board and the Regional Water Quality Control Board, Central Coast Region. It serves as a basis for regulation of water quality by the Regional Board and as a planning guide for public and private entities that take actions that might influence water quality. The Basin Plan describes the present and possible future uses of water in the basin (beneficial uses), establishes water quality objectives for each water body, and outlines an implementation program that would lead to compliance with the water quality objectives.

Although the Basin Plan includes some discussion of toxic materials and numerical water quality objectives for certain

substances, the implementation program does not outline specific procedures for handling of hazardous waste. However, the Regional Board establishes waste discharge requirements consistent with Basin Plan objectives for entities discharging to surface or groundwater systems in the Central Coast Basin. These requirements are designed to ensure that the beneficial uses of the waters of the region are not adversely affected by the discharge. To be consistent with the Basin Plan, facilities sited pursuant to the county and regional Hazardous Waste Management Plans would have to comply with regulatory requirements of the Central Coast Basin Regional Water Quality Control Board.

#### County General Plans and Waste Management Plans

Monterey County. The Monterey County General Plan addresses hazardous wastes management as a part of the "Environmental Constraint" element. The element discusses the potential for chemical fires from oil and natural gas fields, gasoline storage wells, and flammable chemicals. The General Plan identifies potential chemical fires as a complex fire risk that includes explosion, generation of toxic fumes into the atmosphere, and the loss of hazardous chemicals to groundwater systems.

The General Plan identifies over 550 firms in Monterey County which use toxic chemicals including hospitals, heavy industries, laboratories, agricultural industries, and utilities. The General Plan also cites problems with storage and transportation of hazardous materials as a special hazard to property and ecosystems.

The North County, South County, and Central Salinas Valley Area Plans (parts of the General Plan) describe specific areas and kinds of hazardous waste problems by area. The Plans report that the Fort Hunter Liggett area, adjacent to Jolan Road, contains a "fairly large" ammunition dump, the oil and natural gas field near King City and Greenfield is a source of a variety of hazards, and the potential accidental loss of hazardous materials from trucks and railcars throughout the County is a significant threat. In the Salinas Valley area, agricultural use of pesticides, herbicides and fertilizers is cited as having potential impacts both air and water quality.

Goals, objectives, and policies of the Monterey County General Plan concerning hazardous wastes are as follow:

- |      |                  |  |
|------|------------------|--|
| 18   | <u>Goal</u>      | To minimize the risks from chemical usage.   |
| 18.1 | <u>Objective</u> | Reduce the level of risk from hazardous chemicals to an acceptable level by regulating the storage of hazardous chemicals. |

- 18.1.1      Policy      The County shall establish land use controls to reduce undesirable effects of hazardous chemicals.
- 55.1.4      Policy      The County shall limit oil field waste disposal sites to only the number and capacity needed to serve the industry of the region.

The Monterey County Solid Waste Management Plan (an Element of the County General Plan) addresses hazardous waste under a section titled "Special Wastes". This section discusses infectious wastes, household toxic wastes, asbestos handling and disposal, used motor oil, and sewage sludge and septage. Policies of the Plan related to hazardous wastes are as follow:

III.            COLLECTION

B.      Objectives - Short-term

4.      To investigate the establishment of a facility for the collection and temporary storage of small volume hazardous waste such as household generated hazardous waste.

V.            DISPOSAL

B.      Objective

5.      To ensure that all hazardous waste disposal, other than infectious waste, takes place outside the County at appropriate facilities.

VII.          ENFORCEMENT

B.      Objective

3.      To protect human health and safety, property, wildlife and the environment from adverse effects of hazardous wastes in the Municipal Waste Stream.

Disposal Objective B of the Monterey County Plan requires updating to reflect the MCHWMP findings on disposal of asbestos in-County, on-site treatment and oil field waste disposal.

Santa Cruz County. The Santa Cruz County General Plan does not directly address hazardous wastes; however, the Plan does have policies which are intended to protect the environment and are relevant to hazardous waste issues. For example, General Plan Policy 2.2.4 states:

- o      Prohibit any non-residential land use in a Primary Groundwater Recharge Area which would allow the percolation of pollutants into the groundwater system.



The Santa Cruz County Solid Waste Management Plan, as an adopted element of the General Plan, does address hazardous waste management. The plan identifies manufacturing operations that include electronic computing equipment, semiconductors and related devices, commercial printing, fabrication of metal products, automotive services, boat and surfboard building and repair, linen supply, photo finishing laboratories, car washers, and agricultural services as local generators of large amounts of hazardous wastes. According to the Plan, 948 to 1,233 tons of hazardous wastes were hauled from the County in 1983 for disposal at hazardous waste disposal sites.

The Santa Cruz Plan raises a concern about the illegal disposal of hazardous wastes by large generators and homeowners who dispose of hazardous wastes through the sewer system, storm drains, and at landfills not authorized to accept hazardous materials. Although the individual amounts disposed of may be small, the cumulative effect of illegal disposal is identified as significant.

The goals and objectives of the Santa Cruz Plan as it relates to hazardous materials are as follow:

#### VII. Enforcement

A. Goal To ensure that all municipal solid wastes, special wastes and hazardous wastes are stored, collected, transported and disposed of in a safe, sanitary and environmentally acceptable manner.

#### B. Objective - Short Term

3. To protect human health and safety, property, wildlife and the environment from the adverse effects of hazardous wastes.

#### 11.3.3 Hazardous Waste (Objective I.B.1)

The County, in cooperation with the cities, will conduct a comprehensive survey to determine the amounts of various types of hazardous waste, including infectious waste, generated within Santa Cruz County.

#### 11.4.3 Hazardous Waste (Objective II.B.4)

The County and each city will continue to enforce local ordinances pertaining to the storage of hazardous materials before and after they are considered wastes by the user. An active compliance monitoring system will be established through the development and implementation of a county-wide preventive inspection program. The County will assume responsibility for enforcing state law concerning hazardous waste storage through the establishment of a Memorandum of Understanding with the

state Department of Public Health Services.

11.5.8 Hazardous Wastes (Objective III.B.4,5)

- o The County will establish a collection depot (for temporary storage and subsequent transfer) for small amounts of hazardous wastes, generated from sources such as households, small business, or other small scale users of hazardous materials. Pre-development planning will include determination of proper site location, health and safety standards, depot operating responsibility, funding, storage and transfer mechanisms, and provision for ultimate out-of-county disposition (to either a recovery or disposal facility).
- o The Local Enforcement Agency will educate all hazardous waste transporters on the proper handling of hazardous wastes by working with the State Division of Toxic Substances Control to license and regularly monitor hazardous waste collection and transport companies and vehicles that conduct business in the County.

11.6.4 Hazardous Waste (Objective IV.C.7)

The County Environmental Service will assist and encourage the development of a county-wide program for the source reduction, treatment, recycling and resource recovery of hazardous wastes.

11.7.6 Hazardous Waste (Objective V.B.7)

Identifiable Group 1 wastes disposed of in Santa Cruz County include the following:

Tannery wastes. Tannery wastes containing chromium hydroxide will be disposed of as follows, subject to the rules and regulations of the State Solid Waste Board, the State Department of Public Health, and the Regional Water Quality Control Board:

- (1) Through the maximum term until its closure, the upgraded Santa Cruz Class II-1 disposal site may be utilized for disposal of tannery wastes.
- (2) Disposal goal. The industry will be encouraged to develop recycling or source separation procedures which will eliminate this Group 1 disposal item from the Santa Cruz waste stream.

No other disposal of Group 1 wastes will be allowed in Santa Cruz County.



## City General Plans

Chemical accidents are discussed in the City of Marina's general Plan "Safety Element". Emphasis is on the transportation of chemicals through the City by Southern Pacific Railroad and storage and transportation of chemicals at Fort Ord. General Plan policies for hazardous materials are as follow:

- 3.5 Chemical Hazards
  - o Truck routes should be established which minimize the potential for exposure of persons to dangerous chemicals carried by vehicular traffic.
  - o Users which process, manufacture or handle potentially dangerous chemicals shall be located in industrial areas of the community.

The City of Monterey General Plan states that hazardous wastes are not a major problem at this time and are transported to disposal sites outside the County. The policy and program of the General Plan are as follow:

Policy 5 Cooperate with local and regional districts to develop long-range solid waste management proposals.

Program 5b Encourage efforts of other agencies to provide safe handing of hazardous wastes.

The Scotts Valley General Plan estimates that there are approximately 125 users of hazardous materials in the City. Scotts Valley has a Hazardous Materials Management Plan and a Hazardous Materials Officer to implement the plan. The General Plan identifies the computer production and assembly industry as primarily responsible for the generation of hazardous materials in the City. Hazardous materials used include fuels, exotic solvents, resins, and heavy metals.

The Hazardous Materials objective and policy of the Scotts Valley General Plan are as follow:

- 9.4 Objective Reduce the level of risk from hazardous materials and chemicals to an acceptable level by regulating their use, storage and disposal.
- 9.4.1 Policy The City shall strictly administer and enforce all hazardous materials and sanitary sewer ordinances.

The Salinas General Plan addresses hazardous materials in its Safety Element Section 8.3 "Fire and Police Protection; Disaster Planning; Hazardous Materials. General Plan Guiding Policies concerning hazardous materials are the following:

- C. Identify toxic disposal or leakage sites and pursue prompt cleanup.
- D. Use the City of Salinas MultiHazard Emergency Plan for disaster planning and guidance in responding to emergencies.

The Safety Element contains policies relating to the physical design of the city. A separate document, the City of Salinas MultiHazard Emergency Plan, includes hazard mitigation policies and also serves as a manual for response to five hazard-specific situations: major earthquakes; hazardous-material incidents; flooding (excluding flooding from dam inundation); transportation incidents; nuclear-defense emergencies.

The General Plans of the cities of Capitola, Carmel, Del Rey Oaks, Gonzales, Greenfield, King City, Pacific Grove, Sand City, Santa Cruz, Seaside, Soledad, and Watsonville do not address hazardous wastes.

Conclusion. Based on the objectives, goals, and policies of General Plans in the region that address hazardous waste management, the Regional and County Hazardous Waste Management Plans are consistent with the Plans, except for Monterey County's Plan.

#### Military Reservation Master Plans

All of the military reservations within the region are located in Monterey County and include the Naval Postgraduate School, Fort Ord, Fort Hunter Liggett, and the Presidio of Monterey. Each installation has an adopted individual Master Plan.

The Naval Postgraduate School, located in the City of Monterey on more than 600 acres, is a military academic institution for the advanced education of commissioned officers of the U.S. Military and its allies. The Naval Postgraduate School Master Plan does not address hazardous wastes.

Fort Ord is a 28,028 acre U.S. Army military reservation located between the Cities of Marina and Seaside adjacent to Monterey Bay. The main function of Fort Ord is to maintain the Seventh Infantry Division in fulfillment of National Defense requirements. The Presidio of Monterey is a subinstallation of Fort Ord sited on a 392 acres site within the City of Monterey. The Presidio houses the Defense Language Institute, Foreign Language Center as a training facility for military personnel and government employees. Fort Hunter Liggett is another

subinstallation of Fort Ord located on 164,637 acres in southern Monterey County approximately 71 miles southeast of Fort Ord and 14 miles west of King City. The main function of Fort Hunter Liggett is to provide maneuvering and training areas for the U.S. Military Departments.

The U.S. Army Stationing of A New Army Light Infantry Division Draft Environmental Impact Statement states that Fort Ord:

"...currently has a 120 by 300-foot yard located in the East Garrison area which has interim status under the Resource Conservation and Recovery Act (RCRA) as a storage facility."

Stored hazardous wastes are recycled or removed quarterly for disposal in a Class I landfill. Fort Ord can accept hazardous wastes from other military reservations for recycling or storage. The EIS makes reference to no other military hazardous waste facilities in Monterey County.

#### University of California, Santa Cruz

The University of California, Santa Cruz (UCSC) is located on a 2,000 acre site in the northwest corner of the City of Santa Cruz. UCSC is a part of the University of California System and provides undergraduate and graduate liberal education. The UCSC Long Range Development Plan reports 1986-87 campus enrollment at 8,409 students.

The Environmental Impact Assessment on the Proposed Research and Development Center, University of California, Santa reports:

"Approximately eight or nine 55-gallon drums of hazardous chemical waste and a similar number of 55-gallon drums radioactive waste are removed from the campus every three months by a licensed waste hauler in accordance with federal and state regulations."

The Long Range Development Plan does not address hazardous wastes.

### **10.2 Recommendations for Resolving Conflicts and Schedules for Resolution**

While no specific inconsistencies between the Hazardous Waste Management Plans and other environmental and land use plans were identified, local general plans should be updated to reflect findings in the Regional and County Hazardous Waste Management Plans. This will occur as local General Plans are amended to incorporate each of the County Hazardous Waste Management Plans (180 days after DHS approval of each of the County Hazardous Waste Management Plans).



## APPENDIX A





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**APPENDIX**  
**SITING CRITERIA**

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Monterey County Siting Criteria

1. **HIGH HAZARD AREAS:** Those areas in which human and animal life could be jeopardized if fugitive release occurs.
  - A. **SEISMIC:** No facility shall be placed within 200 feet of an active or recently active fault, and should not be placed in areas designated by the General Plan as high hazard seismic zones 4, 5, and 6. Unstable upland areas and recent alluvium designations are also considered high seismic hazards.
  - B. **FLOODPLAINS:** This criteria includes areas subject to flooding by dam or levee failure and natural causes such as river flooding, rainfall, snowmelt, tsunamis, seiches, and coastal flooding.

**RESIDUALS REPOSITORIES:** Repositories shall not be located in areas subject to 100 year flooding events (as mapped by the Federal Emergency Management Agency), even with protection.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** May be built in areas subject to 100 year flooding event (as mapped by the Federal Emergency Management Agency) if protected by engineered solutions, such as berms, raising above flood levels, etc.
  - C. **WETLANDS:** No facilities shall be located in wetlands such as saltwater, fresh water, and brackish marches, swamps, and bogs inundated by surface or groundwater with a frequency to support, under normal circumstances, a prevalence of vegetative or aquatic life which requires saturated soil conditions for growth and reproduction, as defined in adopted general, regional, or state plans.
  - D. **HABITAT OF ENDANGERED SPECIES:** No facilities shall be located within critical habitat areas or environmentally sensitive areas, as defined in adopted general, regional, or state plans.
  - E. **UNSTABLE SOILS:** Facilities located within these areas shall have engineered design features to assure structural stability. This category includes steep slopes (greater than 30%) and areas subject to liquefaction and subsidence due to natural and manmade causes.

- F. **MAJOR RECHARGE AREAS: RESIDUALS REPOSITORIES** shall be prohibited within areas known or suspected to be supplying principal recharge to a regional aquifer or have known groundwater problems, as defined in adopted general, regional or state plans.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** Facilities should be discouraged from being located in such areas. If located in these areas, facilities shall provide properly engineered spill containment features, inspection measures, and other environmental protection controls.

2. **PUBLIC SAFETY:** Those areas in which criteria should protect the public.

- A. **DISTANCE FROM RESIDENCES: RESIDUAL REPOSITORIES:** A buffer zone of at least 2,000 feet is required for any hazardous waste residual repository, unless the owner proves to Monterey County and the California Department of Health Services satisfaction that a 2,000 foot buffer zone is not required to protect public health and safety.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** Risk assessments shall be made when permitting a facility. This shall consider the physical and chemical characteristics of the specific type of wastes that will be handled, the design features of the facility, and any need for buffering residential areas or other sensitive areas from adverse emissions from a proposed facility.

- B. **DISTANCE FROM IMMOBILE POPULATIONS: FOR ALL FACILITIES:** Risk assessments, performed at time of permitting, shall be used to determine the need for buffer zones between the facility and immobile populations. This risk assessment will consider the physical and chemical characteristics of the specific types of wastes which will be handled and the design features of the facility and proximity to immobile populations. Immobile populations include schools, hospitals, convalescent homes, prisons, facilities for the mentally ill, airports, etc.

- C. **PROXIMITY TO MAJOR TRANSPORTATION ROUTES: RESIDUAL REPOSITORIES:** Repositories should have good access to major transportation routes, but may have to be more distant from waste generation sites than other types of facilities because of their need for larger land areas.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** Facilities other than repositories should be located so as to minimize distances to major transportation routes and designed to accommodate heavy vehicles and extra length trucks.

**ALL FACILITIES:** Road networks leading to major transportation routes shall not pass through residential neighborhoods, should minimize residential frontage in other areas, and shall be demonstrated to be safe with regard to road design and construction, accident rates, excessive traffic, etc.

3. **PHYSICAL LIMITATIONS OF THE SITE AREA:** Areas which, because of their existing physical characteristics, must be utilized in specific ways.

- A. **RESIDUAL REPOSITORIES:** Repositories shall conform to the requirements of the State Water Resources Control Board.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** All aboveground facilities shall have engineered structural design features, common to other types of industrial facilities. These features would include spill containment and monitoring devices.

- B. **NONATTAINMENT AIR AREAS<sup>1</sup>:** **ALL FACILITIES:** Siting should not be precluded from these areas unless risk assessments performed as a part of permitting, considering the physical and chemical characteristics of the specific types of wastes that will be handled and design features of the facility, show that emissions will significantly contribute to nonattainment of standards, that such emissions cannot be mitigated and that the emissions from such facilities are significantly greater than those associated with transportation of hazardous wastes out of this area.

- C. **PREVENTION OF SIGNIFICANT DETERIORATION (PSD) AREAS<sup>2</sup>:** **TRANSFER AND STORAGE FACILITIES:** These facilities could be permitted in PSD areas, if they are necessary to also handle potentially hazardous wastes generated by visitors or residents in recreational or cultural facility areas which are in the PSD zone.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** Unless an analysis for a specific proposed facility shows that air emissions cannot be adequately mitigated, other facilities can be established in PSD areas. These facilities, however, shall not be located near or within national parks, state parks, wilderness and memorial areas, and other similarly dedicated areas.

- D. **PRIME AGRICULTURAL LANDS:** **ALL FACILITIES:** Prime agricultural lands, under California law, may not be used for urban purposes unless an overriding public need is served. When siting hazardous waste management facilities in these areas, overriding public service needs must be demonstrated.



- E. **DEPTH TO GROUNDWATER: RESIDUAL REPOSITORIES:** Repositories shall meet siting requirements of the State Water Resources Control Board.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** Other facilities may be located in high groundwater areas if the engineered design of the containment structure is capable of withstanding failure because of geologic or soils failures which may arise.

4. **LOCATION SPECIFIC CRITERIA:** These are criteria which could affect the location of the sites, but are not necessary site specific.

- A. **PROXIMITY TO PUBLIC FACILITIES: ALL FACILITIES:** Potential adverse impacts which could occur because of proximity of the facilities to places where large numbers of people may gather shall be determined as a part of the risk assessment conducted in the permitting process. This shall consider the physical and chemical characteristics of the wastes that will be handled and the design features of the facility. Proximity to other public facilities such as corporation yards, utilities, large open spaces on military reservations, and state school lands in remote areas may be acceptable.

**RESIDUAL REPOSITORIES:** Self sufficient services may be necessary.

**TRANSFER/STORAGE FACILITIES:** Self sufficient services may be appropriate, where these facilities are necessary to serve remote rural area. In urban areas, public services shall be available.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** Public water and sewer services and emergency services should be readily available.

- B. **PROXIMITY TO WASTE GENERATION STREAM: RESIDUAL REPOSITORIES:** Repositories may be located more distant from waste generation sources than other facilities because of their need for larger land areas.

**ALL OTHER HAZARDOUS WASTE FACILITIES:** These should be located close to waste generation sources to minimize the risks of transportation.

- C. **INDUSTRIAL, COMMERCIAL, AND SPECIFICALLY ZONED LANDS:** Hazardous waste management facilities, other than residuals repositories, are basically industrial facilities. Generally, it may be appropriate to site them in industrial and commercial zones. However, the siting of hazardous waste management facilities is not



required to be limited to these zones if special zones are created. Because repositories usually require large land areas, it may not be practical or economical to site them in developed commercial or industrial areas. Specially zoned areas or rezoning of other areas may be appropriate. The counties should have some type of zoning which will allow siting of different types of hazardous waste management facilities and the zoning should protect designated hazardous waste management sites from the encroachment of incompatible land use.

- D. **RECREATIONAL, CULTURAL, OR AESTHETIC AREAS<sup>3</sup>: ALL HAZARDOUS WASTE FACILITIES:** Shall not be allowed in these areas.
- E. **MINERAL RESOURCES AREAS: ALL FACILITIES:** No facilities shall be sited so as to preclude extraction of minerals necessary to sustain the economy of the State.
- F. **MILITARY LANDS:** It is the policy of the Department of Defense that military land shall not be considered for establishment of public hazardous waste management facilities. This policy is considered non-negotiable by the Department of Defense.
- G. **OTHER STATE, FEDERAL, AND INDIAN LANDS:** The criteria listed above are suitable for use in determining the suitability of lands within these areas for siting of hazardous waste management facilities.
- H. **COASTAL ZONE:** Only transfer and storage facilities shall be located in areas that lie within the Coastal Zone, as identified in Chapter 3 of the California Coastal Act of 1976. Coastal Act legislation is designed to protect environmentally sensitive lands in the coastal region.
- I. **LAND USE:** All facilities shall be consistent with surrounding land uses and populations.
- J. **FACILITY SIZING:** Facilities should be sized to accommodate regional needs for Monterey, Santa Cruz, and San Benito Counties.

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<sup>1</sup>Nonattainment air areas are those areas in which one or more of the critical air pollutants exceeds the National Ambient Air Standards, and have not achieved standards required by the Federal Clean Air Act.

<sup>2</sup>Prevention of Significant Deterioration (PSD). PSD areas are those which meet the ambient air standards of the Clean Air Act, and thus should be prevented from significant deterioration.

<sup>3</sup>Cultural areas include historic preservation, Indian reservations or other areas of significant cultural interest. For those areas rated by the General Plan as "high" for cultural and archaeological sensitivity, a study shall be completed to determine if resources exist. Aesthetic areas are those with scenic designation (including "critical" and "highly sensitive" General Plan designations) in state or locally adopted general plans.

## Santa Cruz County Siting Criteria

1. **SEISMIC:** Zones of potential surface rupture faulting, areas of high to moderately high liquefaction potential, and areas most susceptible to landsliding (slopes >15%).
2. **FLOODPLAINS:** 100-year floodplains and areas subject to flooding by dam or levee failure and tsunamis, seiches, and coastal flooding.
3. **WETLANDS:** Saltwater, fresh water, and brackish marches, swamps and bogs inundated by surface or groundwater with a frequency to support a prevalence of vegetative or aquatic life which requires saturated soil conditions for growth and reproduction.
4. **ENDANGERED SPECIES HABITATS:** Plant and animal rare, endangered, and critical habitat areas.
5. **UNSTABLE SOILS:** Slopes >30% and areas subject to liquefaction and subsidence due to natural and manmade causes. The potential for settlement, compression, and uplift should also be considered.
6. **MAJOR AQUIFER RECHARGE AREAS:** Areas known or suspected to be supplying principal recharge to a regional aquifer.
7. **WATER SUPPLY WATERSHEDS RECHARGE AREAS:** Areas so delineated on General Plan "Resources" maps.
8. **DISTANCE FROM RESIDENCES:** Criterion applies to all residences. However, urban and suburban density residential zoned areas are used in plan analysis.
9. **DISTANCE FROM IMMOBILE POPULATIONS AND PUBLIC FACILITIES:** Places where large numbers of people may gather, such as schools and churches. Immobile populations include hospitals, convalescent homes, prisons, facilities for the mentally ill, etc.
10. **EMERGENCY RESPONSE/TRANSPORTATION ROUTES:** State Route 1 except north of Davenport, State Route 17 except north of Scotts Valley, State Route 152 except east of Carlton Road, State Route 129, and the railway as far as Davenport are designated as hazardous waste transportation routes.
11. **PERMEABLE STRATA AND SOILS:** Permeability requirements are defined by Water Resources Control Board in CAC Title 26, 23-2531 (b).

12. **NON-ATTAINMENT AIR AREAS:** Areas not in compliance with national air quality standards for one or more measured air pollutants.
13. **PSD AIR AREAS:** Prevention of Significant Deterioration Areas are those in compliance with national air quality standards.
14. **PRIME AGRICULTURAL LANDS:** As defined by county plans or California Department of Conservation Farmland Mapping Program.
15. **DEPTH TO GROUND-WATER:** Five feet is the minimum acceptable distance between hazardous wastes and the highest anticipated elevation of underlying groundwater.
16. **PUBLIC SERVICES:** Public water and sewer services and emergency services should be readily available.
17. **PROXIMITY TO WASTE GENERATORS:** Large quantity generators of manifested hazardous waste shall be considered for industrial facilities.
18. **APPROPRIATE ZONING:** Santa Cruz County should have some type of zoning which would allow siting of different types of hazardous waste management facilities.
19. **COASTAL ZONE:** (to be amended pending completion of Santa Cruz County Hazardous Waste Management Plan)
20. **RECREATIONAL, CULTURAL OR SCENIC AREAS:** Historic preservation, Indian reservations, and other cultural and scenic areas, as defined in locally adopted plans.
21. **MINERAL RESOURCES AREAS:** Existing mines and areas identified by U.S. Geological Survey or California Division of Mines and Geology as potential mineral resources areas.
22. **MILITARY LANDS:** (to be amended pending completion of Santa Cruz County Hazardous Waste Management Plan)
23. **OTHER STATE, FEDERAL AND INDIAN LANDS:** (to be amended pending completion of Santa Cruz County Hazardous Waste Management Plan)

## APPENDIX B





## **INTER-COUNTY AGREEMENTS FOR SITING HAZARDOUS WASTE MANAGEMENT FACILITIES<sup>1</sup>**

The Tanner Bill (AB 2948) suggests that counties may develop inter-county agreements regarding the management of hazardous wastes in regional recycling, treatment, incineration and residuals disposal facilities. Several councils of government are also charged with preparing hazardous waste management plans on a regional basis; inter-county agreements may be helpful in implementing these plans. This paper outlines key issues that will arise in developing and implementing such agreements, and offers several approaches for fashioning model agreements.<sup>2</sup>

### **Background**

California's present system for managing hazardous wastes relies to a large extent on land disposal of untreated hazardous wastes. The long-term protection of public health and the environment, together with new state and federal laws, demand that this system be upgraded very quickly to provide for extensive waste reduction, recycling, treatment, and the safe disposal of recycling and treatment residuals instead.

California's counties and four regional councils of government are now developing hazardous waste management plans (HWMPs) to deal with waste reduction, planning for the impending state and federal restrictions on land disposal of untreated hazardous wastes, and siting new hazardous waste management facilities to implement those restrictions. The Tanner Process is fundamentally a local government planning effort intended to address the expected hazardous waste management needs of private sector companies (and households) which generate hazardous wastes within local jurisdictions. These plans include assessments of current and projected needs for offsite facilities to handle the hazardous wastes produced by the county's industrial, commercial, and household generators. (Counties have strong incentives to develop CHWMPs that meet state law and DHS Guidelines for state approval in order to better guide the siting of new facilities: without approved CHWMPs, a new state Appeal Board could overturn local land use decisions that are inconsistent with the county's General Plan).

Generators in most counties have relied on a few large privately owned waste management and disposal facilities located in a few counties, notably in Kings, Santa

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<sup>1</sup> This paper was prepared on behalf of the California Partnership for Safe Hazardous Waste Management, by Christopher W. Myers, of Exceltech, Inc., who gratefully acknowledges the valuable contributions of others throughout the state in its preparation.

<sup>2</sup> It is recognized that a disagreement now exists in the state over the application of siting criteria for local needs. While this disagreement is closely related to the question of inter-county agreements, this paper does not address it.

Barbara, Contra Costa, Solano and Imperial Counties for offsite waste management services. Additional wastes are shipped out of state. The planned phase-out of land disposal and the accompanying treatment standards that wastes must meet to allow disposal will dramatically alter the demand for management facilities, increasing the need for waste reduction, recycling and treatment, both onsite and offsite, and new residuals disposal units. Existing treatment, storage, and disposal facilities may close unless they are able to meet both current and potentially more restrictive operating standards; companies operating existing facilities may choose to close.

### Reliance on Relatively Few Facilities

It is highly unlikely that any county will be able assure its generators of the complete range of needed hazardous waste management services through facilities located within the county. Most likely, counties will continue to rely on a relatively small number of facilities located throughout the state to serve their generators' hazardous waste management needs. Several reasons account for this. In the first place, any new facilities are expected to be developed by the private sector, not by the county governments themselves. Local governments probably will not develop their own facilities to serve local generators and households. Second, factors such as anticipated economies of scale, environmental and geological land-use restrictions, and political opposition, make it likely that private waste management firms will focus on developing a relatively small number of large facilities located to serve as many generators as possible.

Third, counties where existing or new facilities are located cannot restrict their use to generators located in their jurisdictions. Local governments are generally prohibited from unreasonably limiting the use of permitted facilities by the interstate commerce clause of the U.S. Constitution, and attempts at such limits at the state level have been rejected by the U.S. Supreme Court (e.g., City of Philadelphia, et al. vs. New Jersey, 1978). There appears to be a strong statutory basis in California for this, as well. The Health and Safety Code (Div. 20, Ch. 6.5, Article 9, Sec. 25200) provides:

[DHS] may impose, as a condition of the permit, the requirement that the operator of a hazardous waste facility which receives hazardous waste from more than one producer shall comply with any order of the director which prohibits the facility operator from refusing to accept a hazardous waste based on geographical origin which is authorized to be accepted and may be accepted by the facility without extraordinary hazard.

Title 22, Sec. 66315 of the California Code of Regulations is more direct:

No local agency shall enforce any requirement, other than those in this chapter, which would impede interstate or intrastate transportation or disposal of hazardous waste or which would impede use of facilities for regional multi-county management of hazardous wastes.



Therefore, generators from any and all counties, and even from out of state, will be free to use any privately owned hazardous waste management facility. Generators will ultimately determine where their wastes will be treated and their residuals disposed, based upon economic factors.

### Incentive for Inter-County Sharing

The Tanner process requires counties to account for their entire waste stream and then to plan for the future management of those wastes that are shipped offsite--by private firms presumably to privately-owned and operated facilities. At a minimum, CHWMPs must address all current and projected wastes generated within the county by identifying appropriate hazardous waste management facilities within the county and providing for the siting and development of new facilities within the county that will meet current and projected needs. Since most facilities will serve generators across wide geographic areas, counties have some incentive to develop agreements with other counties to provide for the collective distribution and use of hazardous waste management facilities *in order to demonstrate that their CHWMPs comply with state law and DHS's implementing Guidelines*. DHS asserts that inter-county agreements alone will not accomplish compliance with DHS Guidelines. Siting criteria providing for a wide range of types and sizes of facilities will.

The acceptance of "fair share" allocations based upon the needs of each jurisdiction's generators is a hallmark of the predecessor to the Tanner process, the Southern California Hazardous Waste Management Project. Most counties and the two largest cities in Southern California engaged in regional planning to address their collective hazardous waste management needs. This effort resulted in the establishment of the Southern California Hazardous Waste Management Authority through a joint powers agreement which allocated specific facility types to each jurisdiction, based on their share of the region's waste stream and compatibility of various hazardous waste management facilities with existing land-use patterns and environmental suitability. This regional cooperation and planning continues as a collective effort to overcome the "Not In My Backyard" siting syndrome in an equitable manner. Like the historic Southern California effort, a salient feature of the Tanner Process involves local political acceptance of responsibility for siting appropriate new facilities as needed within one's each jurisdiction, and to regionally share responsibility for siting larger facilities, including siting criteria development and methods for providing appropriate compensation to areas that accept more than their "fair share" of facilities.<sup>3</sup>

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<sup>3</sup> It should be noted that DHS believes that local government's responsibility for locally generated wastes necessitates allowing for siting of a broad range of facilities sized to be economically feasible and not limited to serving only local needs, as limiting capacity to local needs may make facilities infeasible. DHS also believes that local communities' responsibilities are not limited to local waste management, as the communities must share in the responsibility for finding safe and effective solutions to the management and disposal of hazardous wastes. DHS does not require permitting of such facilities, only the development of siting criteria for a broad range of types and sizes of facilities. They have also explicitly rejected the use of inter-county agreements to "allocate" regional facilities which are developed by the private sector, or which in any other way limit the size or range of facility types that every county must allow for in its plan and therefore could be forced to site through a state override of a local land-use decision. DHS's position is that each county must establish siting criteria which are not limited in nature or applicability by inter-county agreements. This appears to contradict the path developed over the past

There are significant differences in the incentives or burdens facing counties in developing their Tanner Plans and addressing the potential need to site new hazardous waste management facilities. These depend on the extent to which counties can already meet its own generators' needs for hazardous waste management services that do not involve land disposal of untreated wastes. Counties that are primarily exporters of hazardous wastes have an interest in an accommodation with counties that have (or will have) facilities capable of handling the exporting counties' wastes. Otherwise, they will need to site facilities to handle these wastes themselves. This is particularly important to counties that export large volumes of wastes. Even a county that both imports and exports large amounts of wastes for treatment and/or residual disposal may not be able to "trade" waste management services unless a second host county has both sufficient waste volume of one or more types of wastes that the first county can handle and has facilities capable of handling one or more different types of wastes from the first county. Counties that export wastes to another county and also receive wastes from that county will most easily reach accord, generally to continue the current exchange.

How an inter-governmental agreement could be designed to deal with private market decisions is not clear, however. Two major problems are particularly important:

- How to cope with the vast uncertainty that characterizes current and future waste stream information when deciding what facilities are needed and by whom. Good faith negotiations among counties to decide "fair share" allocations could easily be frustrated by this uncertainty--uncertainty that is compounded by different methodologies and data quality used among the jurisdictions. Moreover, it is likely that new data and improved methods will produce results that contradict significant aspects of the earlier estimates upon which any initial agreement was based. Therefore, agreements must be structured to address changing conditions, and not be overly tied to unreliable information. Furthermore, agreements should be based on on-going cooperation, not one-time efforts.
- How to "enforce" such agreements, remembering that they concern waste flows across jurisdictions, among governments that cannot interfere with those flows. What happens, for instance, if a developer proposes a facility designed to meet a regional need but chooses to locate it in a jurisdiction in violation of a "fair share" allocation previously agreed to by that jurisdiction? Perhaps more importantly, what happens if the owner of a facility decides to stop operating?

One solution to the problem of controlling waste flows, of course, is for the counties to own the facilities. This would give considerable weight to inter-county agreements,

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several years by what is now SCHWMA. DHS believes that agreements between counties may be useful, nonetheless.



and would be analogous to existing arrangements concerning solid waste, or garbage. In this instance, counties wishing to have its generators gain access to a facility owned by another jurisdiction would find it necessary to negotiate with the other county, and probably have to offer specific inducements to the county/owner. Such inducements might include compensation and/or access to facilities owned by the first county. This arrangement would undoubtedly provide the greatest incentive for inter-county negotiation and regional cooperation. To date, there has been little enthusiasm expressed in this idea, however.

This paper suggests two other, general approaches to the inter-county facility sharing problem which do not involve county ownership of hazardous waste management facilities. The first involves tacit agreements between counties, while the second requires that formal agreements be reached. Each has a number of variants, none of which is necessarily exclusive of the others. Some addressing the sharing, or equity, issue, while others do not. All attempt to provide a means of meeting the mandates of the Tanner Process through local government planning for private generator and waste management service companies' behavior in meeting state and federal regulatory requirements.

## NO FORMAL INTER-COUNTY AGREEMENTS REQUIRED

Information Exchange. A straightforward approach to the need for a county to rely on hazardous waste management facilities in another county is through a tacit agreement exchanging information about hazardous waste imports and exports between sending and receiving counties. One county periodically (perhaps no more than annually) would notify another county of the total volume and types of wastes it expected its generators to send to facilities located in the second county during the period. As a more easily-implemented alternative, this could be done retrospectively. It could be based upon the state manifest data provided the county on the previous year's waste flows, with an assessment of the expected flow for the coming year. This approach is "tacit" because it does not require a formal signed agreement between the waste-sending and waste-receiving counties. This approach also would not require that the receiving county take any formal action to acknowledge and "accept" the sending county's wastes. It would provide both counties with information necessary to plan for their waste management needs and capabilities, and implement its CHWMP. The tacit agreement approach is analogous to the notification system envisioned under OECD conventions governing transboundary movements of hazardous wastes in Europe.

The "tacit agreement" approach might take the following form. A county would use the capabilities of any existing facilities and planned expansions of facilities currently within its borders as its base to meet the expected needs of its generators. New facilities in the county would be encouraged to meet any unmet local needs. Any remaining unmet needs for hazardous waste management facilities would be met by existing, expanded or new facilities located in other counties. This information would be drawn from locally-obtained data, such as from generator inspections or annual reports, or from data annually provided by DHS based upon the manifest system and/or biennial generator reports. The exporting county would notify the receiving county by certified mail of its expectation that its generators would use a specified



portion of the facility's (or facilities') capacity during the coming year. Copies of this notice would also be sent to DHS and EPA Region IX. The host county could then indicate in a formal written statement of intent to each facility within its borders the waste types and volumes that the county expected its generators will send to the facility, as well as any imported waste streams projected in notices from other counties.

Should the facility's (or facilities') capacity already be oversubscribed by generators in the host county, by agreement with other counties to take their generators' wastes, or by private contracts in place between generators and waste management firms, or the facility not have the capabilities required to handle the specified waste imports, the host county would notify the exporting county of this fact. Moreover, the receiving county, DHS and EPA would have an opportunity to reject the proposed waste flow for cause, having to do with violations of regulatory requirements (e.g., the facility is not approved or appropriate for the wastes specified), public health concerns, the CHWMP of either the exporting or importing county, or other legitimate reasons. The county desiring to export some of its wastes would then have to find capacity elsewhere, and might have to take additional steps to encourage the needed capacity development with its own jurisdiction.

This approach could encourage counties to develop tacit agreements for handling different portions of one another's waste stream. A reciprocal arrangement could lead to development of one type of facility in one county and another in a second county. Both counties would therefore export some wastes and import others.

Preferential Services. A second approach that would not involve a formal inter-county agreement would apply to new facilities only. New facilities would be required to offer priority or added services at reduced costs to generators located in the county, as a condition of their land use permit. (Such requirements for preferential services must be reasonable, and not arbitrarily applied.) This would encourage generators--particularly small quantity businesses--to use facilities inside the county in order to obtain the services. These services might include analytical testing of incoming wastes, or other services for which the per-unit cost would otherwise be prohibitive to small quantity generators. It might also require that the new facility give local generators preferential treatment in order to keep local small business generators from being "squeezed out" of the facility by large generators from other counties, who would otherwise be considered preferred customers because of their large waste volume. This approach is consistent with the statutory requirement that counties plan for the management of the wastes generated in their borders, and does not restrict the flow of wastes either into or out of the county.

A county or city might make it a requirement of each generator's business permit (and renewal) to demonstrate a contractual arrangement with an appropriate recycling, treatment, and/or disposal facility to handle all of its offsite hazardous waste management needs for the period of time covered by the business permit. (Of course, such a should emphasize that priority be given to source reduction, followed by onsite recycling and treatment, and then that a contractual relationship be shown with an offsite facility to handle any remaining wastes.) Such an in-county offsite facility might thus be required to accommodate these generators' needs on a priority basis, if the generators agree on a reasonable contract within a reasonable period of time. After



that, the facility operator would be free to offer remaining capacity to generators in other areas (perhaps with priority given to those with whom an inter-county agreement exists).

Fee and Rebate System. A third approach that would not require a formal inter-county agreement involves using fees and rebates. The Fee and Rebate system would levy an annual fee on hazardous waste generators in proportion to their anticipated or historical waste stream volume. Some or all of the fee would be rebated each year to a generator depending on the extent to which it handled its wastes in a specified fashion, consistent with the hazardous waste management hierarchy. Rebates would be high for accomplishing a designated level of source reduction; medium for onsite recycling and treatment; and progressively lower for using in-county hazardous waste management facilities. The system should be designed to be simple, its message or incentive easily perceived, and easily administered. The fee would need to be levied and used for an appropriate purpose, of course, such as technical assistance or to cover additional hazardous waste management regulatory or monitoring activities required as part of the county plan implementation (e.g., to help implement county-wide adoption of the hazardous waste management hierarchy to improve protection of public health, safety and the environment).

It might take the following form: An annual fee would be levied on all hazardous waste generators in the county, based upon their volume. The fee needs to be large enough to create an incentive, but not so large as to be prohibitively expensive for small generators. It might be scaled to waste volume in as few as three categories (e.g., small, medium, and large generators). The entire amount would be rebated to the firm at the end of the year if the firm accomplished a stipulated level of source reduction. This should be measured against a simple baseline, perhaps simply geared to offsite manifested wastes the previous year. Or more tailored measures or levels could be developed, perhaps tailored to individual firms). The burden of proof should be on the firm. The county may wish to give partial rebates for partial success, although this complicates the system. A slightly smaller rebate (say, 80 percent of the fee) would be given to the firm for reducing their volume of wastes requiring offsite management through (certified) onsite treatment. Here, too, the burden of proof would be on the generator. A smaller rebate (say, 50 percent of the fee) would be given if the generator brings all its remaining wastes requiring offsite treatment or disposal to facilities or transfer stations within the county. This is intended to provide a large incentive (at the margin) for local generators to use local facilities; out-of-county generators using the facility, of course, would receive no rebate, and would pay the full market costs.

This approach is very different from a ban on cross-county waste flows. Instead, it offers positive (additional) incentives for firms to adopt the hazardous waste management hierarchy by reducing their offsite waste management needs, first, use facilities in the county, second, and use out of county facilities, third. Properly designed, the fee and rebate scheme could accelerate private efforts throughout the county toward source reduction and onsite management.



## FORMAL INTER-COUNTY AGREEMENTS REQUIRED

Four approaches involving formal inter-county agreements are discussed below. They are listed in order of increasing formality.

Fair Share Policies & Criteria. An inter-county agreement among counties in a region could specify "fair share" facility siting allocations for each county according to each county's contribution to the region's waste stream. The specific allocations of different types, numbers and sizes of facilities would result from negotiation and compromise among the counties. This is the approach taken in the Joint Powers Agreement of the Southern California Hazardous Waste Management Authority. The Regional Hazardous Waste Management Plan and the CHWMP for each signatory county would include policies and siting criteria to implement these allocations. These would encourage the cooperation of facility developers to propose facilities consistent with these allocations. It might also provide a means of enforcing regional agreements through the Appeals Board, which could uphold local land use decisions that were consistent with these allocations expressly incorporated into the Plans.

Fair Share With Siting Incentive. This approach would start with the Fair Share Policies and Criteria approach described above, but would provide an incentive to counties to encourage development of the facilities to manage their allocations. Each CHWMP and the Regional Plan would incorporate the allocations, although the agreement would only list the numbers and types of regional facilities needed, and not specify which types of facility would go in each county. Each county could reject for cause proposals not consistent with the allocation formulae only *after* it had first accepted one or more regional facility consistent with the allocation. In other words, a county would accept one or more initial regional facilities consistent with its allocation. Subsequent proposals could be rejected until the initial round of regional facilities had been built throughout the region. Therefore, a county would have an incentive to encourage developers to build a type of regional facility the county considered desirable, say a large neutralization unit, before one was built in another county to serve the region, in order to avoid being required (through the Appeals Board) to site a type of facility the county considered less desirable (e.g., an incinerator). Counties slow to site would thus be penalized for their recalcitrance.

Fee and Rebate System within Agreement. This would be identical to the fee and rebate system described above, but would add a direct incentive (at the margin) for generators to use offsite facilities, if necessary at all, covered by an inter-county agreement. Instead of receiving no rebate for using out-of-county facilities, a small rebate (say, 25 percent) would be provided to generators who send wastes to facilities in counties included in a fair share allocation agreement. No rebate would be given for export to facilities located "outside" the County and Regional Plans. This would be a means for "enforcing" the inter-county agreement.

Fair Share with JPA Compensation. This approach requires that a formal regional authority be created, or that an existing council of government be given the authority needed to carry this out. Here, the developer of a new regional facility would fund a study to assess the economic and other impacts of the project on the county at two levels: first, as if the facility were scaled only large enough to serve generators in the



county; and second, at the regional scale as the facility is proposed to be built. Any net costs of the first (local) scale would be mitigated by the developer and the county (or smaller host community) compensated appropriately, according to the CHWMP. The regional authority would then assess on its members the additional mitigation and compensation costs associated with the facility being scaled to serve the region. These costs would be in proportion to the expected rate of use by the generators in each signatory county, and would be paid to the host county. These "regional-impact" costs could be assessed on a one-time basis, or on an on-going basis. (This approach is analogous to one drafted for SCHWMA.) A fee and rebate system described above could provide the funding base for this approach.

## Discussion

Many of these approaches do not require any form of agreement between counties. Rather, they are designed to provide counties with various methods for influencing the behavior of either generators or hazardous waste management facility developers and operators in their jurisdictions. These methods are intended to provide incentives for complying with local policies; they do not impose unreasonable controls or unreasonably discriminate among generators based on their location. And they are motivated by the need to improve the management of hazardous waste in their areas in order to protect public health and the environment. In doing so, these approaches can be crafted to give counties the ability to cooperate with each other in encouraging the development of needed regional waste recycling, treatment, and residuals disposal capacity.

Without directly or indirectly affecting local generator behavior to in essence "fill up" a local facility's capacity, however, it is possible that a privately-owned facility could be used extensively by generators from other jurisdictions not part of any implicit or explicit agreement. This will be particularly true where the facility is sized well above the capacity needed to serve generators from areas covered under an inter-county agreement.

When an inter-county agreement is desired, it might take one of two forms. Two or more counties could join in a memorandum of understanding concerning the management of hazardous wastes in their jurisdictions. This might be as little as a statement of general intent to cooperate and to facilitate the development of needed capacity to serve their generators' needs. A second approach would be for two or more counties--and perhaps their cities--to establish a formal joint powers authority for the purpose of planning for their collective hazardous waste management needs and facilitating the development of needed capacity for those needs. This is the approach underway through the Southern California Hazardous Waste Management Authority (SCHWMA).

Such a joint exercise of powers agreement would be established pursuant to Title 1 of the Government Code. It would formally include statements of purpose, effective dates, and membership; delineate the JPA's powers, organization, and responsibilities; provide funding sources and staffing resources; provide procedures for adding and withdrawing members; and state its lifetime and initial action plan. The



SCHWMA agreement of June 1985 provides a useful example to follow and is available on request at 213/385-1000.

January 14, 1988

POLICY ON INTER-COUNTY INFORMATION SHARING DEVELOPED BY STAFF REPRESENTATIVES FROM SAN FRANCISCO, SAN MATEO, SANTA CLARA, ALAMEDA, CONTRA COSTA, SOLANO, NAPA, SONOMA, MARIN, YOLO, SACRAMENTO, STANISLAUS, AND SAN JOAQUIN COUNTIES, AND THE ASSOCIATION OF BAY AREA GOVERNMENTS

### Policy

This county shall share information pertaining to inter-county movement of hazardous wastes with other counties. The information to be shared includes:

- Quantities and types of hazardous wastes imported and exported to and from the county.
- Off-site commercial TSD capacity including impending actions that would significantly reduce or expand capacity.
- Changes in hazardous waste generation patterns such as new industries or changes in local regulations that would result in a significant increased need for out-of-county disposal.

This county requests and encourages the California Department of Health Services to develop a program to provide annual summaries of the hazardous waste manifest data to all counties to facilitate inter-county information sharing.

### Implementation

1. Designate an individual in the county to be responsible for sending and receiving inter-county information.
2. Work with other counties to develop a uniform reporting format for this information.



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## APPENDIX C. GLOSSARY

**Absorption:** A process for removing low concentrations of organic materials from gaseous and watery waste streams. The organics are attracted to the surface of a substance, usually carbon.

**Acid:** A large class of substances that form solutions having a low pH. Stronger acids are corrosive to metals and other materials. Acids may be neutralized by being mixed with bases or alkalis to form salts.

**Acid Waste:** A waste with a pH less than 7. (The pH scale shows increasing acidity as numbers decrease from 7 toward zero. Anything above 7 is alkaline, or "basic.") An acid waste is hazardous when its pH is 2.0 or less. See "pH."

**Activated Sludge Treatment:** Exposing wastes to microorganisms and air. A portion of the organic matter is oxidized to carbon dioxide and water and the other portion is synthesized into new microbial cells.

**Acute:** Effects which are manifested soon after exposure to a hazardous material.

**Advisory Committee:** The Advisory Committee is required in AB 2948, Section 25135.2. Although the law specifies some of its members as to the interest groups they represent, the Committee can be as large as desired by the planning agency developing the Plan. Its meetings should be open to the public; it should represent major interest groups in the planning area and should meet frequently throughout the development of the Plan. Although the Plans developed by regional agencies are not required to be developed with the help of an Advisory Committee, one could be helpful in identifying issues and developing support for the Plan.

**Aerobic:** Occurring in the presence of free oxygen.

**Alkaline Waste:** A waste with a pH between 7 and 14. An alkaline waste is hazardous when its pH is 12.5 or greater.

**Alternative Technology:** Defined by the Department of Health Services to mean the application of technology to the reduction of waste generation, promotion of recycling, and alternative to land disposal of hazardous waste.

**AMBAG:** Association of Monterey Bay Area Governments

**Ambient:** Existing conditions of air, water and other medium at a particular time.

**Ambient Air Quality Standards:** Specified maximum average concentrations of pollutants over stated lengths of time, allowed by air quality regulations of local, state or federal agencies.

**Amendment:** Formal changes to an adopted CHWMP. The Plan amendment process includes recognition of the need for revision of the Plan at either regular or intermittent times. All or part of the Plan may be revised and amended as needed.

**Appropriate Agreements:** When this term is used in the Guidelines for the Preparation of Hazardous Waste Management Plans, the California Department of Health Services is expressing its



understanding that agreements between jurisdictions will be individually developed to meet unique goals and should not be expected to be carbon copies of agreements reached between other jurisdictions. Nevertheless, the agreements should address the hazardous waste issues and express the agreements reached between the signatory parties in a legally binding manner.

**Approved Plans:** County, multi-county or regional hazardous waste management Plans (CHWMPs) approved by the Department of Health Services.

**Aqueous:** Of, relating to, or comprised mostly of water.

**Aquifer:** A geologic formation, group of formations or part of a formation capable of yielding a significant amount of ground water to wells or springs. (CAC, Title 22, Section 66011.1)

**Authority to Construct:** An authorization, issued by Air Pollution Control Districts and Air Quality management Districts, which is required prior to construction for proposed facilities which will emit a significant amount of pollutants to the atmosphere.

**Base:** A substance which forms a salt when it reacts with an acid. Bases have a pH great than 7.

**Best Feasible Hazardous Waste Management Technologies:** The best demonstrated available technologies as determined by the Department, or technologies which meet the current state and federal requirements for treatment and/or disposal.

**Bill of Lading:** A receipt listing goods shipped, issued by a common carrier.

**Binding Arbitration:** A process for the resolution of disputes. Decisions are made by an impartial arbitrator. The decisions of the arbitrator are final and acceptance of these decisions must be agreed to in advance.

**Biological Treatment:** Treatment processes utilizing living micro-organisms to decompose organic hazardous wastes into simpler organic or inorganic substances. The five principal techniques include activated sludge, aerated lagoons, trickling filters, waste stabilization ponds, and anaerobic digestion.

**Bioaccumulative:** Substances that increase in concentration in living organisms (that are not readily metabolized or excreted) as they breathe contaminated air, drink contaminated water, or eat contaminated food.

**Biosludge:** Sludge generated in biological treatment of organic wastes, composed primarily on micro-organisms.

**Boiler:** A pressure vessel designed to produce vapor from liquid by the application of heat.

**Btu (British thermal unit):** The quantity of energy required to raise the temperature of one pound of water by one degree Fahrenheit (<sup>o</sup>F) at or near 39<sup>o</sup>F.

**Buffer Zone:** An area of land which surrounds a hazardous waste facility and on which certain land uses and activities are restricted to protect the public health and safety and the environment from existing or potential hazards caused by the migration of hazardous waste. (Health and Safety Code Section 25110.3)



Cap: A layer of clay or other highly impermeable material installed over the top of a closed landfill to prevent entry of rainwater and minimize production of leachate.

Capacity Excess or Shortfall: The needs assessment compared to existing capacity.

Carcinogen: Substance or agent which causes higher than normal production of abnormal cells; i.e., cancer.

Catalyst: A substance, usually present in small amounts relative to the reactants, that increases the rate of a chemical reaction without being consumed in the process.

Caustics (Bases, alkalis): A large class of substances which form solutions having a high pH. Stronger caustics are corrosive to many materials. Caustics react with acids to form salts.

Cell: A portion of compacted wastes in a landfill that is enclosed by natural soil or cover materials.

Cement Kiln Incineration: Organic wastes are burned as a supplementary fuel at very high temperatures during the production of cement.

"Characteristics" of Hazardous Wastes: A method of identifying which substances are hazardous waste, by their physical/chemical properties. EPA has established four "characteristics" that can be determined by tests:

- \* Ignitability - The ability to catch fire.
- \* Corrosivity - The ability to wear away or destroy other materials, including human tissue.
- \* Reactivity - The ability to enter into a violent chemical reaction, which may involve explosion or fumes.
- \* EP (Extraction Procedure) Toxicity - The ability to release certain toxic constituents when leached with a mild acid.

Chemical Oxidation: Adding strongly oxidizing chemicals to a waste stream to effect a reaction which produces less toxic substances and may reduce quantities of such substances. (Cyanide can be detoxified by reaction with hypochlorite or some other oxidizing agent.)

Chemical Reduction: The addition of chemicals to wastes which cause partial or complete decomposition of particular waste components into their basic nontoxic parts.

Chemical Treatment: Treatment processes which alter the chemical structure of hazardous waste constituents to produce an innocuous or less hazardous material. Principle techniques include neutralization, precipitation, ion exchange, chemical dechlorination, and chemical oxidation/reduction.

Chronic: Effects which continue over time.

Class I Land Disposal Facilities: Land disposal facilities which conform to requirements of regulations of the State Water Resources Control Board for Class I units, and which shall be located where natural geologic features provide optimum conditions for isolation of wastes from the waters of the State. Currently, these facilities may accept solid and dry hazardous waste. After 1990, they will be precluded from accepting any untreated hazardous wastes. They may not be located in areas subject to flooding by 100 year floods, areas subject to rapid

geologic changes, or areas subject to tsunamis, seiches and surges, or within 200 feet of a fault zone active within the period defined.

**Class II Land Disposal Facilities:** Land disposal facilities which must be located where site characteristics and containment structures isolate wastes from the waters of the State. They may be located within areas subject to flooding, areas subject to rapid geologic change and areas subject to tsunamis, seiches and surges, if they are designed, constructed and maintained to preclude failure in protecting the waters of the State. Class II land disposal facilities are suitable for wastes which have been granted a variance from hazardous waste management requirements pursuant to Section 66310, Title 22, CAC. (See definition of Designated Waste.)

**COG:** The literal meaning of this abbreviation is Council of Governments and AB 2948 references four specific COGs to receive funding for regional Plan development. This is not meant to preclude the use of other legally binding agreements between counties and cities which are regional in nature as a framework for the development of a regional or multi-county Plan. Associations of Governments, Joint Powers Agreements and the like may be the mechanisms through which multi-jurisdictional Plans are developed which will have the same validity as those COG Plans specifically funded in AB 2948 if the Plans are developed with the processes and procedures described in these Guidelines. The Association of Monterey Bay Area Governments (AMBAG) is an example of a COG.

**Compensation:** Payments awarded either through the courts or a government administered fund to cover injury or damage caused by exposure to hazardous substances. In the case of hazardous materials, awards usually cover lost income, out-of-pocket medical expenses, and pain and suffering.

**Conditional Use Permit (CUP):** A discretionary permit, issued by cities and counties, which is required for certain projects that are allowable by special permit only. A conditional use permit imposes conditions on a project which are designed to assure that the project is compatible with the local general plan and zoning ordinances and that adverse impacts to neighboring land uses are minimized.

**County:** "...a county that notifies the department that it will prepare a county hazardous waste management plan in accordance with this article and receives a grant pursuant to Section 25135.8. "County" also means any city, or two or more cities within a county acting jointly, which notifies the Department of Health Services that it will prepare a county hazardous waste management..." [AB 2948, Section 25135.1(a)]

**Countywide:** The area of a county, including the cities and other entities (such as Indian, federal or state lands) within the boundaries of the county.

**County Hazardous Waste Management Plan (CHWMP or Plan):** A hazardous waste management Plan pursuant to AB 2948 (1986, Tanner). This bill authorizes "...a county, in lieu of preparing



the hazardous waste portion of the solid waste management plan, to adopt, by September 30, 1988, a county hazardous waste management plan pursuant to guidelines adopted by the department..." The bill also authorizes four designated COGs to prepare regional Plans.

**County Solid Waste Management Plan (COSWMP):** A plan which sets forth a comprehensive program for solid waste management pursuant to California Government Code Section 66780.

**Criteria Pollutant:** An air pollutant for which there is considered to be a safe level of exposure and for which standards have been set. Current criteria pollutants are sulfur oxides, particulate matter, carbon monoxide, nitric oxides, ozone, and lead.

**Dechlorination:** Removal or neutralization of toxic concentrations of chlorine from a substance.

**Deep Well Injection:** Disposal of wastes by injecting them into a geological formation deep in the ground, sometimes after pretreatment to avoid solidification.

**Department:** The California State Department of Health Services.

**Designated Waste:** Hazardous waste which has been granted a variance from hazardous waste management requirements pursuant to Section 66310, Title 22, CAC. A variance may be granted if the waste is insignificant as a potential hazard to human health and safety, livestock or wildlife because of its small quantity, low concentration or physical or chemical characteristics. Designated wastes must be handled, stored or disposed in a manner which will not result in hazard to human health and safety, livestock or wildlife.

**Developer:** A person, government unit, or company that proposes to build a hazardous waste treatment, storage, or disposal facility.

**Discretionary Project or Permit:** A project or permit which requires the use of judgement or deliberation when the public agency or body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.

**Disposal:** Abandoning, depositing, interring, or otherwise discarding waste as a final action after use has been achieved or a use is no longer intended. (Section 66048, Title 22, California Administrative Code; the Department of Health Services is proposing to revise this definition.)

**Disposal Site:** The location where any final deposition of hazardous waste occurs.

**Dissolution:** To dissolve in water or organic solvent.

**Distillation:** A process for separating liquids with different boiling points by heating the mixture to vapor and retrieving certain components, by reconsideration. (An important application is solvent recovery.)

**Drum Decantation:** To pour only the liquid material from a drum, leaving settled solids in the drum.

**Electrostatic Precipitators:** Devices that remove particles from a gas stream by passing the gas through an electric field to charge the particles. The particles stick to the oppositely charged plate and are removed mechanically.

**Eminent Domain:** The right of a government to appropriate private property for necessary public use, with compensation paid to the landowner.

**Environmental Impact Report (EIR):** A detailed statement prepared pursuant to the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) describing and analyzing the significant environmental effects of a project and discussing ways to mitigate or avoid the adverse effects. The term "EIR" may mean either a draft or a final EIR, depending on the context. (Section 15362, CEQA Guidelines.)

**Epidemiology:** The study of prevalent diseases in humans.

**Evaporation:** A process for concentrating non-volatile solids in solution by vaporizing the liquid portion, usually water. Solar evaporation utilizes uncovered ponds.

**Exempt Waste:** Wastes exempt from the permitting process and from reporting requirements, such as wastes which are recycled on-site and some waste which are treated prior to discharge to sewers.

**Exposure:** Contact with a hazardous material, commonly by skin contact, breathing of substances or taking materials by mouth.

**Filtration:** Separating liquids and solids by passing suspensions through various types of porous materials.

**Fixation:** A process whereby waste is made unchangeable and/or stationary.

**Flammable:** Materials which will burn below 140°F, either spontaneously or through handling as a result of coming in contact with already flaming material.

**Fluidized-Bed Incineration:** Wastes are injected into agitated beds of inert granular material and burned. Suitable for sludges and liquid wastes; solid waste may need grinding.

**General Areas:** Areas within the planning area which can be identified by specific boundaries.

**Generator:** The person or facility who, by nature or ownership, management, or control, is responsible for causing or allowing to be caused, the creation of hazardous waste.

**Geology:** (1) The composition and structure of the earth's crust.  
(2) The study of the earth's crust.

**Groundwater:** Water below the land surface in a zone of saturation. (22 CAC Section 66079)

**Halogenated:** Substances having a chlorine, bromine, fluorine, or iodine atom in their structure.

**Hazardous Material:** A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either:

(1) Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(2) Pose a substantial present or potential hazard to human health or environment when improperly treated, stored,



transported or disposed of or otherwise managed. Unless expressly provided otherwise, the term "hazardous material" shall be understood to also include extremely hazardous material. (22 CAC, Section 66084)

**Hazardous Substance:** This term means:

- (a) Any substance designated pursuant to Section 1321 (b) (2) (A) of Title 33 of the United States Code.
- (b) Any element, compound, mixture, solution, or substance designated pursuant to Section 102 of the federal act (42 U.S.C. 9602).
- (c) Any hazardous waste having the characteristics identified under or listed pursuant to Section 6921 of Title 42 of the United States Code, but not including any waste the regulation of which under the Solid Waste Disposal Act has been suspended by act of Congress.
- (d) Any toxic pollutant listed under Section 1317 (a) of Title 33 of the United States Code.
- (e) Any hazardous air pollutant listed under Section 7412 of Title 42 of the United States Code.
- (f) Any imminently hazardous chemical substance or mixture with respect to which the Administrator of the United States Environmental Protection Agency has taken action pursuant to Section 2606 of Title 15 of the United States Code.
- (g) Any hazardous waste or extremely hazardous waste as defined by Section 25117 and 25115, respectively, unless expressly excluded. (Health and Safety Code Section 25316)

**Hazardous Substances Account:** A state fund derived from fees paid by persons who submit more than 500 pounds per year of hazardous or extremely hazardous waste to on- or off-site hazardous waste disposal facilities. This is the primary funding source for the state Superfund program.

**Hazardous Waste:** A waste, or combination of wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may either:

- (a) Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.
- (b) Pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

Unless expressly provided otherwise, the term "hazardous waste" shall be understood to also include extremely hazardous waste. (Section 25117, Health and Safety Code.)

**Hazardous Waste Control Account:** An on-going state fund, derived from fees paid by operators of on- and off-site hazardous waste disposal facilities, which is the basic funding sources for the Department of Health Services' hazardous waste management program.

**Hazardous Waste Control Act:** A California law, enacted in 1972, which was the first comprehensive hazardous waste control law in the United States. It established the state's hazardous waste management program within the Department of Health Services.



**Hazardous Waste Element:** That portion of a County Solid Waste Management Plan which addresses hazardous waste management.

**Hazardous Waste Facility:** All contiguous land and structures, other appurtenances, and improvements on the land, used for handling, treating, storing or disposing of hazardous wastes. (22 CAC Section 66096)

**Hazardous Waste Facility Permit:** A document issued by the Department of Health Services to implement the requirements of Chapter 6.5 of Division 4, of the Health and Safety Code. (22 CAC Section 66099)

**Hazardous Waste Management:** The systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery and disposal of hazardous waste. (22 CAC Section 66130)

**Heavy Metals:** Certain metallic elements having a high density and are generally toxic; for example, lead, silver, mercury and arsenic.

**Herbicide:** A chemical used to kill plants. (A class of pesticides.)

**High Priority Wastes:** Wastes which have properties particularly hazardous to human health (toxicity), which can accumulate in living organisms (bio-accumulation), and which remain hazardous for along time (persistence); or which pose increased potential for air emissions due to their volatility, and ground water contamination, due to seepage through soil (mobility). Examples include wastes which contain pesticides, PCBs, cyanides, toxic metals, halogenated organics, or nonhalogenated volatile organics.

**Hydrogeology:** The geology of groundwater, with particular emphasis on the chemical composition and movement of the water.

**Incentives:** (1) Measures which provide benefits to communities above and beyond the costs associated with hazardous waste management facilities. Incentives would make a community better off than it was before a hazardous waste management facility is sited; (2) also refers to certain measures (such as low interest loans, tax breaks, etc.) taken by government to stimulate the development and implementation of improved technologies for managing hazardous waste.

**Incineration:** A process for reducing the volume or toxicity of hazardous wastes by oxidation at high temperatures.

**Inert:** Exhibiting no chemical activity; totally unreactive.

**Ion Exchange Irritant:** Substances that are not corrosive, but can injure or inflame living tissue.

**Ions:** Chemical constituents of a solution having a positive or negative electrical charge.

**Joint Powers Agreement (JPA):** An agreement between two or more public agencies for the joint exercise of any power common to the contracting parties.

**Judicial Review:** Refers to legal evaluations made by the courts concerning administrative agency decisions and actions.

**Land Disposal Method:** Disposal, storage or treatment of hazardous wastes on or into the land, including, but not limited

to, landfill surface impoundment, waste piles, deep-well injection, land spreading, and co-burial with municipal garbage. **Land Disposal Restrictions:** Refers to the state and federal program to progressively ban the land disposal of untreated hazardous wastes.

**Landfarming (Land Application, Land Spreading):** A treatment technique which involves spreading the waste on land and utilizing evaporation and microbial action to degrade the wastes. (Not the same as landfilling.) Used primarily for crude oil wastes.

**Leachate:** The liquid that leaks out of a landfill. Leachate frequently contains contaminants dissolved from the waste in the landfill.

**Leachate Collection System:** A system that gathers leachate and pumps it to the surface for treatment.

**Lead Agency:** The public agency which has the principle responsibility for carrying out or approving a project. The lead agency will decide whether or not an EIR or Negative Declaration will be required for the project and will cause the document to be prepared.

**Liner:** A relatively impermeable barrier designed to prevent leachate from leaking from a landfill. Liner materials includes plastic sheets and dense clay.

**Listed Waste:** Wastes "listed" by EPA as hazardous by definition, even in instances where the "characteristics" may not apply.

**Local Assessment Committee:** Review group created by a host or abutting community to analyze a proposed hazardous waste management facility. In some states such Committees have the authority to negotiate with the facility proponent (on behalf of the community) regarding the conditions under which the hazardous waste management facility may be built.

**Local Veto Authority:** Within the context of hazardous waste management facility siting, refers to the ability of cities and counties to unilaterally reject proposed facilities by denying local land-use approval.

**Management:** The systematic control of the storage, transportation, processing treatment, collection, source separation, recovery and disposal of hazardous wastes. It includes administrative, financial, legal, and planning activities as well as operational aspects of hazardous waste handling, disposal, and resource recovery systems.

**Manifest:** A State form which indicates generator, quantity, type of waste, and disposer of waste for each shipment of hazardous wastes handled in off-site facilities.

**Mediation:** A voluntary negotiation process in which a neutral mediator assists the parties in a dispute to reach a mutual agreement.

**Memorandum of Agreement (MOU):** A written record between administrative agencies which clarifies or establishes joint procedures or authorities necessary to administer a program.

**Microorganism:** In the context of biological treatment of wastes,



microscopic bacteria, protozoa, fungi, and other living matter which degrade organic wastes.

**Ministerial Project or Permit:** Involves governmental decision involving little or no personal judgement by the public official as to the wisdom or manner of carrying out the project. The public official merely applies the law to the facts as presented, but uses no special discretion or judgement in reaching a decision. A ministerial decision involves only the use of fixed standards or objective measurements, and the public official cannot use personal, subjective judgement in deciding whether or how the project should be carried out. Common examples of ministerial permits include automobile registrations, dog licenses, and marriage licenses.

**Mitigation:** Includes:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- (d) Compensating for the impact by replacing or providing substitute resources or environments.

**Monitoring Well:** A well, drilled near a hazardous waste management facility, to allow ground water to be sampled and analyzed for contamination.

**Multi-County:** An area including two or more counties.

**Mutagenic:** Causing alterations in the structure of genetic material of living things.

**Need for Facility:** A present or projected shortfall of facilities to meet local or multi-county waste management purposes, including facilities which provide more desirable or economic means of hazardous waste management and may serve greater than local needs.

**Needs Assessment:** The determination of the total required capacity (treatment or disposal, depending on context). The needs assessment ignores existing capacity.

**Negative Declaration:** A written statement by the lead agency and subject to formal public review which briefly describes the reasons why a proposed project, not exempt from CEQA, will not have a significant effect on the environment and, therefore, does not require the preparation of an EIR. (Section 15371, CEQA Guidelines.)

**Negotiation:** A process through which tradeoffs are made by parties in a dispute to reach an agreement satisfying them all.

**Neutralization:** A treatment technology whereby acids and alkalis are reacted to form salts and water with a pH approaching neutral.

**New Source:** Within the context of air pollution control, this refers to a new facility or a modification of an existing facility which is a source of air pollution. (May cause restrictions on the development of some hazardous waste facilities.)

**Nonattainment Area:** Area whose ambient air levels of pollutants exceeds federal or state standards. (May be difficult to approve certain kinds of hazardous waste facilities, such as incinerators, in nonattainment areas.)

**Nonhalogenated:** Substances which do not contain halogens (Chlorine, bromine, fluorine or iodine) and evaporate at relatively low temperatures.

**Offset:** Emissions reductions required to be made at another facility or on other equipment of the same owner in order to mitigate the increased emissions caused by a new source (hazardous waste facility). The offset is intended to maintain or improve the quality of the air.

**Off-Site Hazardous Waste Facility:** A hazardous waste facility that is not an on-site facility. (Health and Safety Code Section 25117.11)

**On-Site Hazardous Waste Facility:** A hazardous waste facility at which a hazardous waste is produced and which is owned by, leased to, under the control of, the producer of the waste. (health and Safety Code Section 25117.12)

**Operator:** A person, government unit, or company that conducts treatment, storage or disposal. The operator may or may not be the developer.

**Organic:** Chemical substances of animal or vegetable origin, of basically carbon structure, including hydrocarbons and their derivatives.

**Organometallic Compounds:** Organic molecules (ingredients) which incorporate metal atom(s) into their molecular structure.

**Permit:** A document issued by a governmental unit that allows specified activities to proceed under specified conditions.

**Permit Streamlining Act (A.B. 884):** A California act, enacted in 1977, which imposes timeframes and requirements on governmental agencies permitting processes for development project.

**Recharge Zone:** A land area where water, from precipitation, infiltration from surface streams or impoundment areas or other sources soaks into the ground and enters an aquifer.

**Recycle:** To redirect or utilize a hazardous waster or a substance from a hazardous waste, and includes recovery of resources from a hazardous waste. (Health and Safety Code Section 25121)

**Regional Facility:** A hazardous waste management facility which accepts wastes from more than one county.

**Regional Plan:** A Plan prepared by one of the COGs designated in AB2948 or by joint agreement between two or more counties under a legally constituted agency covering the planning area, which has the delegated authority to prepare a Regional Plan.

**Research, Development and Demonstration Unites (RD&Ds):** Either, (1) Department designated facilities located on-site, at the source of generation which are exempt from the SHWMP consistency requirement; or (2) Department designated facilities located in industrial zones or in other zones, where, because of their temporary and experimental nature, they are granted a limited life conditional use permit by local government. Since they must



be operated under the conditions of the local land use permit, such facilities are consistent with the CHWMP.

**Residuals Repository:** A storage facility which accepts solid materials resulting from the treatment of hazardous wastes to standards established by the Department or hazardous organic waste which is stabilized, solidified or encapsulated. No free liquids will be accepted. The residuals are solids, with relatively insoluble toxic material content and are to be kept dry by the design of the facility.

**Resolution:** Any legally binding method of taking action by a Board of Supervisors, City Council or other governing boards of regional agencies, such as COGs, special districts, and self designated multi-county or single county agencies, to develop and adopt the CHWMP or to delineate voting processes meeting the requirements of AB 2948.

**Resource Conservation and Recovery Act (RCRA):** A federal act which gives the Environmental Protection Agency the authority to develop a nationwide program to regulate hazardous wastes from "cradle-to-Grave." Enacted in 1976, the Act was established to "protect human health and the environment from the improper handling of solid waste and encourage resource conservation."

**Resource Recovery:** The reuse or reclamation of any hazardous waste or any recyclable hazardous material (except those that are exempted by Section 25127.5 of the Health and Safety Code). (22 CAC Section 66180)

**Responsible Agency:** A public agency which proposes to carry out or approve a project, for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of CEQA, the term "responsible agency" includes all public agencies other than the lead agency which have discretionary approval power over the project. (Section 15381, CEQA Guidelines.)

**Siting Criteria:** Factors which must be met to determine the physically appropriate site or area for the location of a hazardous waste management facility. These factors do not include justification of need for a facility.

**Source Reduction:** On-site practices which reduce, avoid or eliminate the generation of hazardous waste.

**Special Wastes:** A waste which is a hazardous waste only because it contains an inorganic substance or substances which cause it to pose a chronic toxicity hazard to human health or the environment and which meets all of the criteria and requirements of Section 66742 and has been classified a Special Waste pursuant to Section 66744. (22 CAC Section 66191)

**Storage Facility:** A hazardous waste facility at which hazardous waste is contained for periods greater than 96 hours at an off-site facility or for periods greater than 90 days at an on-site facility. (Health and Safety Code Section 25123.3)

**Superfund:** Refers to the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the California Hazardous Substance Bond Act of 1984 (Article 7.5 of Division 20 of the California Health and Safety Code). These



provide funding for cleanup of sites contaminated with hazardous waste.

**Transportable Treatment Units (TTUs):** Hazardous waste treatment works which are designed to be moved either intact or in modules and which are intended to be operated at a given location for a limited period of time. TTU's are regulated as follows: (1) Where TTU's are treating wastes at the site of the waste generation, they shall be considered as on-site and therefore exempt from the consistency requirements of AB 2948; (2) Where TTUs are treating wastes which have been removed from the generation site, such as at a transfer station, they will be situated on property which is already permitted for hazardous waste management by the state and local government. They shall be given consistency status with CHWMPs; and (3) TTUs used at cleanup sites, either for site mitigation or for emergency response purposes shall be considered to be on-site units.

**Transfer Station:** Any hazardous waste facility where hazardous wastes are loaded, unloaded, pumped or packaged. (22 CAC Section 66212)

**Transportation:** The movement of hazardous waste by air, rail, highway or water. (22 CAC Section 66213.5)

**Transportation Route:** Any major freeway or interstate highway designated under AB 1861 (Campbell, 1985) which is used to transport hazardous waste or materials.

**TRM:** Technical Reference Manual, a multi-part document prepared by the Department which supports these Guidelines and provides data to persons preparing CHWMPs.

**Treatment:** Any method, technique or process, including neutralization, designed to change the physical, chemical or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage or reduce in volume. (22 CAC Section 66216)

**Treatment Facility:** Any facility at which hazardous waste is subjected to treatment or where a resource is recovered from a hazardous waste.

**TSDF:** A treatment, storage or disposal facility. This may also include transfer stations. This term is used in definitions of federal regulations.

**Variance:** An exemption from the Department's permitting process which is granted under special, stated conditions. Notifications of variances are sent to the local environmental health and land use planning departments and such facilities are still subject to local land use permits.

**Waste:** Any waste for which no use or reuse is intended and which is to be discarded. For purposes of the CHWMP, waste is considered to be any material for which not use or reuse can be found at the primary generation site which must be managed in a process separate from the generation process.

**Waste Reduction:** On-site practices which reduce, avoid or eliminate the need for off-site hazardous waste facilities, including source reduction, recycling and treatment.

**Sources:** California Department of Health Services, Guidelines for the Preparation of Hazardous Waste Management Plans, 1987.  
California Department of Health Services, Technical Reference Manual of the Guidelines for the Preparation of Hazardous Waste Management Plans, Part 0, 1987.



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